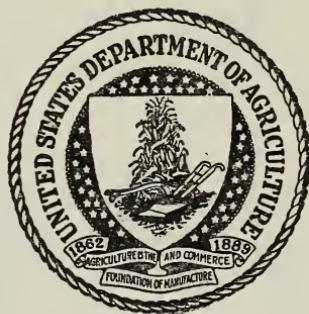


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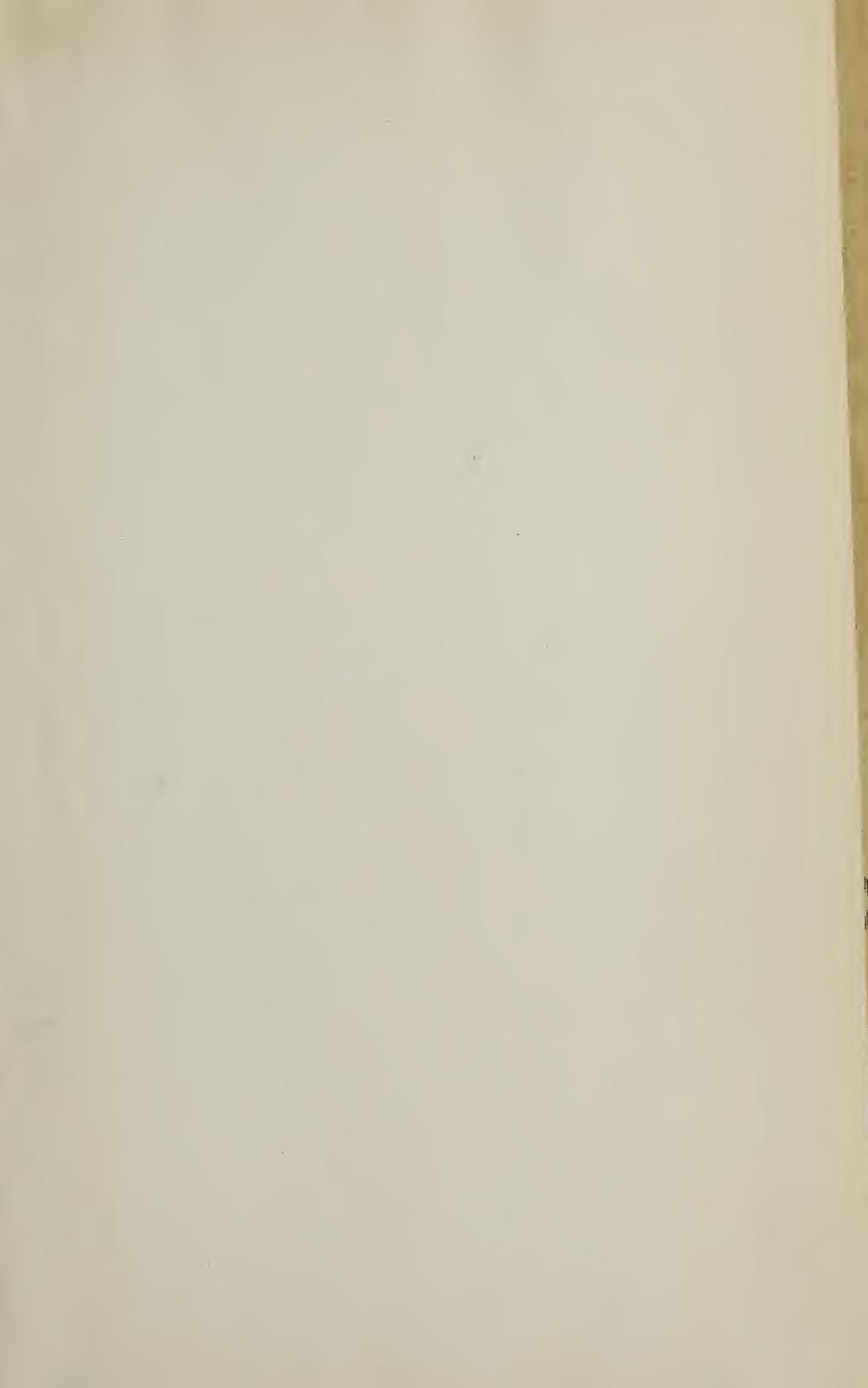
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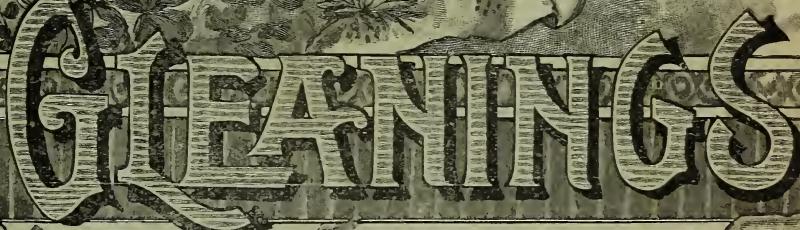
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GARDENING



CULTURE

BEE

A JOURNAL DEVOTED
TO BEES, HONEY,
AND HOME INTERESTS.

The A. I. Root Co.
MEDINA, OHIO.

MURRAY HEISS
CLEVELAND, O.

Gleanings in Bee Culture

[Established in 1873.]

Devoted to Bees, Honey, and Home Interests.

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By Dr. C. C. Miller.

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Honey as an article of diet; honey cooking-recipes.

100,000 distributed in three weeks.

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VOL. XXVI.

JAN. 1, 1898.

No. 1.

STRAY STRAWS FROM DR. C. C. MILLER.

A WRITER in *British Bee Journal* objects to calling a virgin queen a princess; says it is a misnomer, and although credited to England is seldom used there.

R. C. AIKIN is an interesting and instructive writer about bees, and I'll be glad when he gets through with irrigation, rivers, alkali, and things, and gets down to bee-talk.

"MR. SUPPLY-DEALER, shuffle off the inset section," is the advice of Somnambulist, in *Progressive*, after considering the no-bee-way section. [That is just what The A. I. Root Co. is doing just as fast as it can.—ED.]

SPEAKING OF PUMPKINS, A. I. Root says, p. 895, "I have, during the past two or three months, paid 5 cts. apiece for every load that I have seen brought into our town." They're higher here. \$1.00 to \$2.00 a load is the lowest.

R. C. AIKIN has commenced in *Progressive* what promises to be a serial autobiography, so far as his apistical experience and experiments go. It ought to be interesting, for, whatever else R. C. may do or not do, he's not given to staying in ruts.

ABOUT 12 KILOGRAMS (26.4 lbs.) is what Th. Weippl, editor Vienna *Bienen-Vater*, considers a proper allowance of winter stores for a colony from Oct. 1 to May 1. It may get through with less, but this will so hinder development that the saving will cost heavily in the next crop.

SEEING THE PICTURE of the junior Coggshall, p. 880, reminds me. At Buffalo I noticed his father introduced the boy to strangers just as if he had been a man. I liked W. L. before, but I liked him a good deal better after that. I don't believe boys were made merely to be snubbed.

FORTY ACRES OF BUCKWHEAT three miles away from W. Z. Hutchinson bloomed two or three weeks early, and his bees stored very slowly. Then buckwheat close by bloomed, and combs were filled with a rush. He thinks distance made the difference. But buckwheat

doesn't always yield; W. Z., and will it yield ahead of its usual season?

HUTCHINSON put his bees in cellar Nov. 22. My 295 were put in on that and the two following days. Michigan and Illinois weather not so far apart. I had zero weather within a week. Hutchinson brought home two colonies from two miles out in the country, and put them in cellar without a fly. If those two come through as well as the rest, I'm no good guesser.

I'M SORRY to see you hint, Bro. A. I., p. 898, that family worship and blessing at table are going out of fashion. Some old fashions are hard to improve. Here's an old Scotch grace that's good:

Some hae meat and canna eat,
And some hae name and want it,
But we hae meat and we can eat,
And sae the Lord be thankit.

NO-BEE-WAY SECTIONS can be made by using the usual inset section with plain separator, says S. Brautigam, in *Progressive*. Make a kerf $\frac{1}{16}$ or $\frac{3}{32}$ deep, say $\frac{1}{8}$ inch from the edge on the outside of the section, then split off with a knife when the section is filled. Would do, but would take extra time just when one is most hurried, and wouldn't be a very smooth job.

W. F. MARKS makes a good nomination, p. 893; but, Bro. Marks, why didn't you nominate before? The ballots were cast before your nomination saw the light. Now, if you'll start the thing next October, and nominate an entirely new set of directors, I'll help you all I can. [It was a little late, it is true; but *GLEANINGS* was out before my ballot was cast, and I hoped it might catch most of the other members.—ED.]

MANY seem to get Weed process and drawn foundation mixed. The *British Bee Journal* speaks of bee-keepers being much interested in "the new drawn-out 'Weed' foundation." If I understand correctly, the Weed process means the manner of sheeting, and after sheeted it may be made into drawn foundation or not. Drawn foundation is that with deep cells, whether the Weed process of sheeting has been used or not. Is that straight? [You are orthodox, doctor, on this point, even if you are not on the question of selling sections for less than a pound in weight.—ED.]

SHAMROCK, according to a lively discussion in *British Bee Journal*, may be a honey-plant or not; and just what shamrock is, seems mixed. As nearly as I can make out after weighing all the evidence, the true shamrock seems to be *Trifoliate-acetogolupul-is-oxalina-prorpepsolium*, depending somewhat upon locality."

WHEN ACETYLENE LIGHT was mentioned in GLEANINGS I felt enthusiastic about it. When I read in *Cosmopolitan* how explosive it was, I folded up my enthusiasm and put it away with moth-balls. After reading GLEANINGS, page 901, I got out my enthusiasm, smoothed out the creases, and now I'm waiting for A. I. Root to tell me what lamp to get.

HERE'S AN ITEM may please A. I. Root. The young people of Marengo got up a petition which induced the city fathers to pass a law forbidding the selling or giving away cigarettes, not merely to boys—the State law forbids that—but to anybody. [That is quite an idea. It might not be a bad idea to try it on in this town. We will see. I firmly believe that cigarette-smoking on the part of boys is more harmful than the use of whisky and beer, bad as they are.—ED.]

THE *British Bee Journal* favors the use of sections with split tops to receive the foundation. I wonder if this can be the same split top abandoned some years ago on this side. If I am not mistaken, split tops are also used in France. [We make a good many split-top sections, but they are almost wholly for the English trade. I believe, however, if some of our cousins across the big pond would once learn the knack of putting foundation into sections by the heated-plate method they would throw away the split-top sections just as we have done.—ED.]

THREE HUNDRED AND THIRTY-FOUR pounds of honey was extracted from single hive in England the past season by Lancelot Quayle. The *British Bee Journal* regards this as probably the largest ever taken in the kingdom. [It is hardly fair to crow over our British cousins; but some years ago a record of 700 lbs. was reported from Texas, but it was discredited by a good many prominent bee-keepers. We do know, however, that two or three leading bee-keepers did secure as much as 450 or 500 lbs. each from a single colony and its increase.—ED.]

TALK ABOUT two of us getting 17,000 pounds honey with little help. Hutchinson's neighbor, Koeppen, beats that all hollow. He ran five apiaries and took 12,000 lbs. comb honey, and did all the work his lee-lone self except one man's help about a week. [I am not sure that friend K. beat you "all hollow," after all. If I am correct, your 17,000 lbs. of honey was all produced from two apiaries—certainly not from more than three—call it three. Now, 17,000 lbs. from three apiaries is a better record than 12,000 lbs. from five apiaries. Then you do not know how much overtime Mr. K. put in.—ED.]

NEW BEGINNERS are often spoken of in bee-keeping. Mightn't we just as well save the wear and tear of that word "new"? [Yes, it

is so easy to stick in that word "new" when it is not needed. We have tried hard to keep out the combination from our columns—at least in our own writing. If any one had asked me the question point blank I should have said that the term "new beginner" could not be found in our pages; but since you have seen fit to bring up the matter in a Straw, I have been wondering if you did not have reference to us. Now, doctor, point out the (guilty (?)) culprit.—ED.]

THE THOUGHT that the cross-cleats were the only parts of the fence separators that would need cleaning quite pleased me till I remembered that just the same place in the old separator is all that's to be cleaned; and as that's a plane surface it's easier to clean the old separator. [But, doctor, you can scrape the propolis off the cross-cleats easier, because the knife runs with the grain of the wood, than you can across the face of plain separators where the knife has to go across the grain. It is true, you may run the knife with the grain, but then you would have to scrape practically the whole surface of the separator.—ED.]

THOSE ARE GOOD PAPERS you mention for Sunday reading, p. 899, Bro. Root, but *Golden Rule* is a little behind the times. Better get *Christian Endeavor World* and keep up with the procession. [My two favorite papers are the New York *Independent* and the *Outlook*. They are both independent papers, give accurately all the news that is important to know, from a Christian standpoint; but neither the papers that A. I. R. mentioned, nor those that I have named above, are the only good ones. I am glad to say. There are hundreds of others that are most excellent. There is scarcely a paper among the orthodox sects that is not good.—ED.]

L. STACHELHAUSEN says, in *Southland Queen*, that bees sometimes use old wax to build comb with, but only when they can not secrete wax. I think, friend S., you'll find they'll use old wax right in the height of wax secretion, if they don't have to carry it far. Formerly, when I put a frame of brood between two wide frames of sections I invariably found black wax in the sealing of the sections unless I moved the sections before sealing. That's a reason for thick top-bars, so the bees will not carry up black wax. [If I am correct, doctor, we once had an argument on this same question; but for the life of me I can not now remember whether you are now on my side of the fence or I on yours.—ED.]

PUTTING BLOCKS under the corners of a hive is troublesome, as you say, Mr. Editor, and, worse than that, it's extremely aggravating to have a hive occasionally tumble off the blocks; but a big entrance won't begin to give the free air that a blocked hive has. Possibly there might be fixed blocks at the corners, with removable strips at sides and back. [Perhaps you are right; but methinks that, in the majority of instances, an entrance $\frac{3}{8}$ inch deep, and the whole width of the hive, would be large enough. But if that entrance be not large enough, there is nothing to prevent using

blocks even then. Did you ever use an entrance $\frac{1}{8}$ inch deep through the season? We expect to change all our bottom-boards next season by nailing on a rim $\frac{1}{2}$ inch thick.—ED.]

HASTY doesn't relish honey as keenly as 20 years ago, but has a growing appetite for half a pound at a sitting. Thinks it a "pestilent idea" that it isn't good form to eat any more honey at table than one would politely eat of butter, and that honey ought to be regarded "as a thing to be sailed into for all one's appetite calls for, like bread or potatoes." He says bee-keepers bolster up the homeopathic style of eating by selling very small packages, and by the inflated prices put upon these little morsels [I am selfish enough to hope friend Hasty is right; but I am almost positive I could not eat half a pound of honey at a meal day after day. I might do it, perhaps, two or three times running. If any one can beat friend Hasty in eating honey, I hope he will hold up his hands.—ED.]

I'M PUZZLED to know why there should be so much difference about large entrances inducing robbing. Some say raising hives on blocks is too great a temptation to robbers. Lots of my hives are hoisted $\frac{3}{4}$ to an inch, and never a case of robbing. In the fall, just when robbers are worst, entrances are all 12x2. Never a hive is robbed if it's all right *inside*; and if it isn't, contracting the entrance won't save it. [Yes, indeed. If a colony is strong enough to be of any service it is strong enough to defend itself against robbers, even with a wide entrance. But assuming that bees have a better chance to rob with large entrances, there is no law to prevent reducing the size of such an entrance to a point where robbers would not stand much of a show; but if, on the other hand, the hive has a small entrance, and the colony is overpopulous (or, perhaps I had better say, just in the right trim for working in the sections), there is no power on earth that can enlarge the entrance without prying the bottom-board off or mutilating the hive.—ED.]



The Trip Back Home; Foul Brood a Slow-working Disease.

BY R. C. AIKIN.

We arrived in Lincoln in time to attend the convention. I took a keen interest in the work of that meeting, and particularly in the organizing of the United States Bee-keepers' Union. I am yet very much interested in it, and will later have somewhat to say in regard to it.

From Lincoln we again went eastward,

crossing the "Big Muddy" at Nebraska City. There is some fine country between Lincoln and the river. We saw a few hives here and there along the route, but did not come in contact with any apiarists. We had an invitation to visit with a Mr. J. H. Stephens, at Riverton, Iowa. Mr. Stephens lives a few miles off the Missouri bottoms, in the bluffs. Just as we left Lincoln it began to rain on us, so we had some mud as we drove to the home of Mr. Stephens, and it was in the gumbo soil on the Missouri bottom that we stuck in the mud for the first time on the trip. I have no doubt that we could have pulled through the mud-hole, but Bill horse put a front foot into a rut and then set the hind foot on top of it, and so threw himself. I quickly loosed him from the wagon and other horse, when he scrambled to his feet, seeming none the worse for the trouble. I then laid down the fence by the roadside, and, with picket-ropes, hitched to the end of the tongue; but Bill pulled once to find that the wagon stuck, then refused to do any more. A passing team, however, pulled us out, and we went on rejoicing, and were soon at the hospitable home of Mr. Stephens. He has an eighty-acre farm and a nice home, lying in a little valley surrounded by timber and hills. He certainly has a fine location for bees. He had less than 50 colonies, but said they were more profitable than his farm. He is also interested in thoroughbred swine.

From here we passed on about a day's drive, and pulled up where the Muser spent his boyhood days. I drove directly to my old home, and stopped on the farm where I spent over twenty years of the prime of my life. It was there I began my bee-keeping career over twenty years ago. I think it was about the year 1874, probably, that I started with one colony, and then, before I was yet 21 years of age, I chose apiculture as my life business, and began the study of it with a view to keeping abreast if not ahead of the times.

It was while under the parental roof that some of the most bitter experiences of my life came upon me. It was there that I was taught, by bitter sorrow, that "whom the Lord loveth he chasteneth," and from there, through financial reverses, my aged father and mother went out homeless and penniless. To-day others reap the harvest from the planting by the fingers that pencil these words. It was on that old farm where I learned some of the first and best apicultural lessons of my life, and where I made the greatest honey-yield of my life, 227 pounds surplus per colony, spring count, and increased from 11 to 28. The seasons have since changed, however, and for the past few years but little honey has been produced, and many bees have perished.

I want to relate a little foul-brood experience. It was on our journey that I met with it. At one place we called on a bee-keeper who was well read in regard to the pursuit. It was his practice, however, to allow his bees to swarm, and never to open the brood-chamber. He said the bees had been robbing two colonies, and it seemed as though he could not stop them. As we looked through the yard

he pointed out the robbed hives in front of which he had piled straw. The bees were not then flying, so I just pulled the cover off the nearest one and put my nose over the hive. As the odor was suspicious I pulled off the super (empty) and pulled up a central frame, which was about half full of foul brood. The disease had progressed so far that the colony was nearly all dead, and the stronger colonies in the yard were carrying out the honey. An examination of the yard showed about a third of it badly diseased—possibly all of it infected. I witnessed the burning of a portion of the worst colonies. The owner has since informed me that he burned more of them after I left. He had no suspicion of foul brood, yet my own experience with it leads me to believe that it must have been in his yard at least two years. Some, no doubt, open hives too much; but while I look forward to the time when I shall handle frames very little, still I would have hives in such shape that no disease could progress far without being discovered.

Mr. J. L. Strong, of Clarinda, Iowa, a specialist who has been in the business there for many years, showed me the first foul brood I ever saw. I think that was as much as fifteen years ago. He never destroyed a colony on account of it. He always cut out any cell in which it appeared, and never let it make any headway. He told me last winter that it disappeared in a year or two, and has never since reappeared.

While speaking of foul brood I may say something of my experience with it. In January, 1894, I purchased an apiary that was diseased. The former owner had transferred some combs, and used them in the extracting-super. These combs had the very first beginning of foul brood in them. In this way he introduced the disease to a nice apiary, and at the end of two years—the time I purchased the stock—I think it was four colonies that were pretty badly diseased, two of them very bad. The first year I had them, four more colonies developed it. The second year, two; the third year, one; while the fourth year (1897) none showed disease.

During this experience I have watched it very closely; and, so far as it goes, I am led to believe that the disease does not progress very rapidly at first. I should expect, where slight contagion has been introduced, say in the fall or early spring, that the colony infected might live over that summer, possibly to die the next spring and be robbed out, and so communicate the disease to a number of other colonies in the yard. At this rate, about three years from the introduction of the disease would practically finish an apiary if it were not looked after. Possibly it may develop more rapidly at times; but this is my observation in one of my own apiaries, covering a term of four seasons, every colony thoroughly inspected from four to six times each season.

If this is the ordinary way with the disease, surely it is not so much to be dreaded by the practical apiarists so long as the disease can spread only from the contagion in one's own apiary. If, however, a neighbor allows a few

colonies to become thoroughly rotten, and my bees do a wholesale robbing, and bring that honey and distribute it through my apiaries, then I should expect one summer to badly infect almost an entire apiary. These points are still further corroborated by a limited experience as foul-brood inspector of our county, and by testimony of other county inspectors in this State.

Now to return to the account of our trip.

After reaching the old home where I lived for twenty-eight years we spent about two months in visiting with old neighbors. We also at one time decided to locate there. As the weeks of visiting brought us near the holidays and the approach of downright winter, we decided to winter there. It was there, in our little rented rooms with our sheet-iron camp stove as heater and cook-stove, that the former musings were written and placed in the hands of the editor of GLEANINGS.

As our plans failed to work to our satisfaction we did not locate after all; and as soon as the roads would permit in the spring we headed toward Colorado and home. We placed a stove in the back end of our wagon, and on March 19th we pulled out of Page Co., Iowa, and after about five weeks of traveling and visiting we again landed in Loveland the latter part of April, after an absence of about eight months.

We crossed the great Missouri River shortly before she went out of her banks in the great spring floods. The homeward trip was made just about as direct as we could do so. The trip was uneventful, save that it snowed or rained about once or twice a week, and so of course we had much mud. We also narrowly escaped a small cyclone in Nebraska. The storm-center was a number of miles from us, though we experienced a heavy wind and much rain for a few minutes. We were fortunate in that the heaviest storms always missed us, and nowhere did we encounter floods.

We visited but one bee-keeper on the homeward journey—Mr. J. B. Dann, of Dewitt, Neb. Mr. and Mrs. Dann and family entertained us very nicely over Sunday. The Dann apiary, of about 70 colonies, was about the neatest and best-kept apiary we found on our trip. If I remember rightly, Mr. Dann told me he had a contract with his wife, that, if he produced the honey, she was to sell it. She took orders and delivered honey, both at home and in neighboring towns.

In closing this rather disjointed narrative of our trip, let me tell of the wonderful piles of corn we saw. Southwest Iowa, Southeast Nebraska, Northwest Missouri, and Northeast Kansas is probably not excelled anywhere in the United States as a corn country. We passed through some villages where the corn-cribs full of corn covered more ground than all the other buildings. Of course, this was not the rule by any means, yet there were millions upon millions of bushels of corn stored in Eastern Nebraska.

Now, friends, we are settled again in our Colorado home. Wife's health is much improved—better than for two years, and we have decided to remain here. I have been

making many observations of various things in apicultural lines; and if the editor does not choke me off I will try to tell you of them during the months to come.

Loveland, Col.

SPOILING THE MARKET.

Not the "Farmer Bee-keeper," but the "Professional" Bee-keeper and the Glucose-mixer
the Spoiler of Markets.

BY EMERSON TAYLOR ABBOTT.

It is getting to be quite the fashion now for some one to rail about the "farmer bee-keepers" in the bee-journals; about having the market "spoiled," etc. How prone we are to try to shift the responsibility of our failures on to the shoulders of others, just as though a poor article, or one badly handled, could spoil the sale of a first-class article in the hands of a good salesman! It is not the farmer with his pure honey put up in bad shape, improperly cared for in every way, and unattractive, who spoils the market, but the slick salesman of the mixer, with his adulterated goods put up in the most attractive form. This is what beats down the market price of a first-class article of extracted honey, and this indirectly affects the market price of all honey.

Then there is the so-called "professional" honey-producer, with his large crop, much of which he might dispose of in his own home market if he only would, or if he knew how. Instead of this he ships his entire crop to some large city, perhaps follows it up, and, when he finds the market full of honey, cuts the price a few cents under the home dealers, just to close his crop out, and then goes home and writes for his favorite bee-journal a railing article about the "shiftless farmer bee keepers spoiling the market."

If he does not go to market himself, he consigns his crop to some commission man without ever asking if the market may not be already overstocked. After repeated efforts to sell, the commission merchant who, perhaps, knows but little about honey as to quality or the amount produced in the country, gets anxious for his commission, and so cuts loose and throws the honey upon the market for whatever it will bring. When our professional gets his returns he adds another name to the string of his condemnation, and rails about both the commission man and the farmer-bee-keeper, one of whom has "spoiled his market" and the other has "robbed" him of his hard earnings. He never stops to think that perhaps he has had something to do with "spoiling the market," and that he has robbed himself by a lack of proper judgment as to where and how to market his honey.

It seems to me that these people who have so much to say about the farmer bee-keeper spoiling the market lose sight of the first elements of success. Does any one suppose that Edison ever complained about the little fry "spoiling the market" for the products of his laboratory? or a Nordica about the amateurs "spoiling" the people's taste for good sing-

ing? Not by any means! They are not catering to that class of trade.

A poor article set up by the side of one that is first class always makes the good one show off better. We form our judgments largely by contrasting one thing with another. If I wanted to rail about any one spoiling the market in our city I would lay the accusation at the door of some professional Colorado bee-keeper who did not know any better than to consign his honey to one of our commission merchants who otherwise would have bought of me for cash. The market of this city has been spoiled more by so-called "professionals" than it ever has been by "farmers." A gentleman who had much to say at Buffalo about "farmer bee-keepers" spoiling his market did as much as any man I know of to spoil this market last year.

Then if all that is said by these writers is actually true, and farmers do spoil the market, what are these gentlemen going to do about it? Did any one ever reform a man by railing at him? Not much! Has not a farmer a right to keep bees and sell honey, if he feels so inclined? Well, I should say he had, and who will prevent him? You may be able to teach a farmer a "more excellent way;" but if you undertake to drive him from the market he may "buck," as they say "out west."

I would suggest that we stop trying to get a corkscrew cinch on the market, and go to work to see if we can not produce a little better honey than any of our neighbors, and then sell it at home, or as near home as we can.

St. Joseph, Mo., Dec. 1.

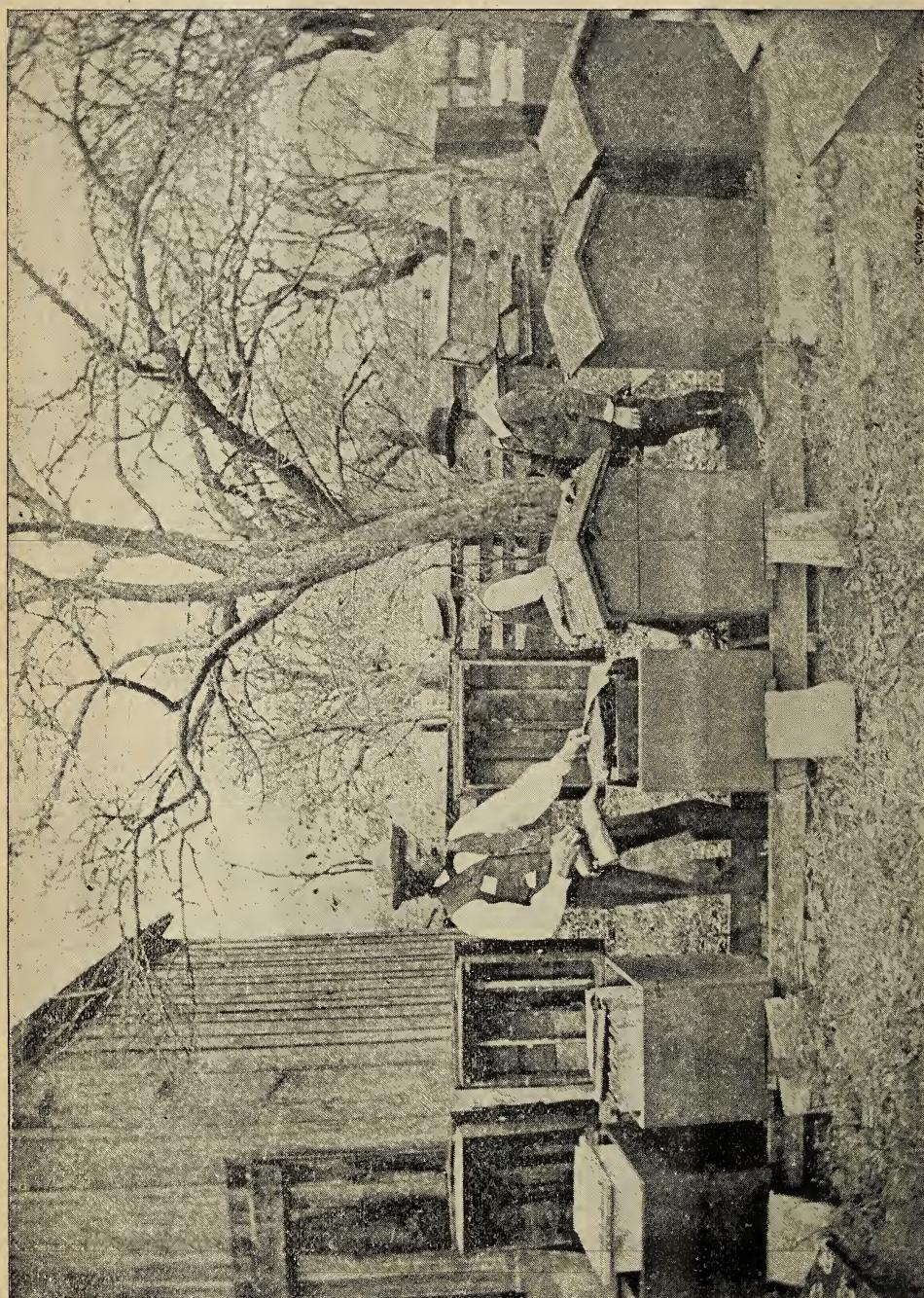
BROOD-FRAMES—SHORT PROJECTIONS.

A Friendly Growl at The A. I. Root Co.

BY CHARLES MITCHELL.

Dr. Miller:—I have concluded to write you a few lines, as you are a sort of medium between the Roots and their readers and customers. I am about to change the style of my frames, and have concluded to use some kind of self-spacer, as they will save a great deal of time in carrying supers in and out, also in getting combs licked off in fall, which I find gives a much better quality of honey the following season; and, by the way, I have got on to a way of getting combs cleaned off, which is much better than any thing I have seen yet. Well, to return.

I just received a sample frame from the Roots, which is, to my mind, a failure. I never saw any one extracting honey who did not do about all the handling and shaking and lifting from the projection of the top-bar. You can not handle heavy combs by the end-bar without sticking your fingers into the honey, or getting stung. Now, if I had wanted to keep people from handling combs by the projection I would just whittle down the projection just as they have it; and then if that did not keep them from jerking or shaking off the bees I would get a staple like theirs and drive it in just where they do. That settles it. Besides, I have shaken off several frame pro-



W. L. COGGSHALL AND SONS IN ONE OF HIS APIARIES.

jections which were much stronger than theirs. It takes a plump $\frac{3}{8}$ projection, not less than $\frac{7}{8}$ wide, to stand the rapid handling. We want some kind of lead nail or button, or a piece of zinc about $\frac{1}{2}$ inch wide clasped on to the end bar. This,  clasped into the edge of the end-bar,  would give a smooth bearing. Of course, you are not an extracted-honey producer. Will you please bring up this subject at once in GLEANINGS? I should like some time to give my 15 years' experience with 8 and 12 frame hives.

If you wish you can put this letter in GLEANINGS, and let the bee-keepers say what they think. Perhaps I have been too plain, as I have much respect for the Root Co. and the

wouldn't allow us to jaw them in their own paper—a comfort that's still left us.

Possibly, however, we bee-keepers are a tribe to blame ourselves. If we would all agree entirely, and then say exactly what we want, I've very little doubt we'd get what we ask for. But one man prefers this, another wants that, a third howls for something else, the fourth thinks the first three all fools, and the only wonder is that, in trying to find out what will suit the jangling lot, the whole A. I. Root Co. don't go into winter quarters in some insane-asylum.

But let's talk about that frame. That's a matter I've been deeply interested in, not merely on general principles, but because most



RESIDENCE OF W. L. COGGSHALL, WEST GROTON, N. Y.

way they do business, and the taste they use in manufacturing goods.

But I don't like to be buying Maule's Thoroughbred potatoes with red flesh without ever saying so. They are completely worthless for market.

Molesworth, Ont., Can.

[Dr. Miller replies:]

I sympathize with you in your feeling of impatience with the A. I. Root Co. They're all the time doing something that doesn't suit me. If I think a certain article ought to be made just so, they're certain to make it some other way. Still, if I should march to Medina and finish off the whole crew of them with a shot-gun, just as likely as not some other firm would spring up in their place that would be worse still; for may be the superseding firm

of my hives have been in use so many years that they must be renewed, and I'm renewing the frames as well. Before me lies a frame that is, I suppose, the same as the sample frame you have. It doesn't suit me, perhaps, any better than it does you; but we might not agree upon the same objections. As to the difference between a frame for extracting and one for comb honey, I don't view it as I formerly did; for, after a little experience in the matter, I don't believe the difference amounts to much. I believe if I wanted to run for extracted honey I'd want the same frame I do now.

Very likely you are right, that most of the handling is by the projection of the top-bar. Considering that point alone, I should prefer a projection 3 inches long and about an inch

square. It would give such a nice firm hold. There are frames in use with long projections, coming clear outside the hive; but believing it better, all things considered, to have them inside the hive, I must be satisfied to have them left only $\frac{3}{4}$ inch long. Then I find myself greatly annoyed with the ends of the projections being glued fast, and it's a choice between two evils, the sticking glue and a projection of only $\frac{1}{2}$ inch. I decided that the glue was the worse evil, and experience confirms that belief. I'd rather have the annoyance of handling a short projection than to be troubled with the everlasting sticking at the end.

After handling a good many such frames, I didn't find the objection in practice that I had theoretically anticipated. With a thick top-bar you can get a very good hold without any projection—no need to handle the end-bar in any case.

You object to having the projection whittled down narrower than the rest of the top-bar. So do I. I don't believe there's any need of it. I suppose the projection was made $\frac{1}{4}$ inch narrower than the rest of the top-bar so as to allow room for the fingers to take hold. In actual practice I don't believe any thing of the kind is needed. You don't take hold to lift the frame till after you have slid it a little distance from its neighbor, and then you've plenty of room to take hold without any whittling away. If I were you, I'd stipulate that the top-bar should not be whittled narrower at the ends. It must be easier to leave it full width, and to my notion it's better. Then it would make it better to handle the top-bar if it were thicker. It is made of $\frac{7}{8}$ stuff, but cut away at each side to $\frac{5}{8}$. I like it better without any cutting away, and a saw-kerf at the center to take in the edge of the foundation.

That staple. You think it would be very much in the way. That's theory. In practice I don't find any trouble with a nail-head, and the staple is less in the way of the fingers.

Somehow the fingers seem to accommodate themselves or slip out of the way mechanically. You want the spacer on the end-bar. Well, you can have it there, although I have some doubt whether you'd like it better in practice. But in that case there is more difficulty in having exact spacing of the top-bars, and that's the part we want most exact.

I want the top-bars exactly spaced; and I find in actual practice that, no matter how exactly the top-bars are spaced, the bottom-bars will vary very much. I want spacers also near the bottom of the end-bars. And I've never yet seen any valid objection to having end-bars and bottom-bars all the same width as the top-bars, neither have I found any objection in actual practice, except the single objection of cost. But as the frames are for a lifetime, I want the better frames, and will stand the cost.

Please tell us how you get the bees to clean up the wet combs. C. C. MILLER.

[If we attempted to suit the taste of persons individually, and not masses, we should be in

hot water all the time. It would be simply impossible to please persons here and there, of diametrically opposite notions.

So many suggestions came in, to the effect that we should shorten the projection to the top-bar, and thus do away with propolis fastening in the rabbet, we finally made the change. That this change was appreciated is evidenced by scores of letters that have come in and are continually coming in. Friend Mitchell seems to lose sight entirely of the *very reason why* the projection was shortened; but as you have explained it so well it is not necessary to go over the ground again any more than to say that, personally, I never think of handling any frame, whether old style or Langstroth, by the projections. I can get a far better grip by handling the top-bar near each end-bar; and with thick top-frames one can get a splendid hold for shaking bees or for any other purpose. It is true, we had narrowed up this projection slightly for the reason that we knew that some persist in handling the frames at this point, despite the fact that there is a better way.

I think you misunderstand friend Mitchell, doctor, as to the kind of frame he was talking about. The staples that he refers to were under the projection of the top-bar. The frame that we sent him was probably a Hoffman with end-spacing staples. What he would or would not think of staples as side-spacers we can not say.

But we do know that they are very successfully used in the northeast part of York State by a large number of bee-keepers, as side-spacers; and unlike yourself, doctor, they could not be persuaded to use those naughty nails.

While we do not court criticism from those who would find fault for the sake of it, we are always glad to have people speak out their mind, especially if they desire to help us as well as to help their brethren in the trade, and I believe friend Mitchell is one of the latter class. If he will come to Medina I think we can show him that it is never necessary to handle a frame by the projections. If he had to handle closed-end frames he would soon learn that the projections, for the purpose of handling, are not necessary. Since working with the Hoffman, all the use we have for projections is simply a support while in the hive.—ED.]

THE FENCE AND PLAIN SECTION IN CANADA.

BY F. A. GEMMILL.

The sample fence separator and new section arrived safely, but not in time for the Oxford Co. Association. However, I was able for the occasion, having fortified myself with the three issues of *GLEANINGS* containing the articles and illustrations concerning them both.

Well, the whole matter was thoroughly discussed in an unprejudiced manner, and it was generally conceded that a separator constructed after the fashion of the fence would greatly facilitate freer communication, and better ventilation throughout the super, and also add to

the better appearance of the section when filled, as also lessen the work of scraping propolis from its edges; and all agreed that, if a perforated separator was a good thing for securing well-filled sections, a perforated follower on each side of the super, *a la* Pettit, was even more of a necessity. But as your footnote to my article in the Dec. 1 issue states that you intend to use perforated followers or dividers instead of the one illustrated in GLEANINGS, you will, therefore, be in accord with our local convention, which contains some of our best comb-honey producers such as Hall, Emigh, Pettit, Newton, etc. There is yet another reason why a perforated or slotted separator is an advantage; and it is a fact that they can be made much wider, and thus prevent the top cells of the sections from being drawn out too far, as in the case when using a T super and a narrower separator.

To be sure, there were some objections, owing to the low price of honey, and some objected to making any radical change in their super construction, to say nothing of the extra expense of procuring new ones, but no valid reason against the use of the new combination was offered; and any one commencing in apiculture, or those intending to make a change from extracted to comb honey, might with advantage and profit adopt the new section and fence separator, with perforated followers on each side of the super.

Comb honey produced by the above methods, however, requires careful handling by the retailer, so as not to stick his clumsy fingers into the surface of the comb when removing sections from the shipping-crate, causing them to bleed, etc. The idea, also, of having thin veneer divide the rows of sections is, of course, a necessity, and they should be as wide as the sections themselves in order to facilitate the easy return of a section to the crate in case it should be necessary to do so.

I will take to Hamilton to-morrow, the 7th, the samples you have sent, and show them at the Ontario Bee-keepers' Association, to be held the 7th, 8th, and 9th, in case you have not made any provision for doing so.

Stratford, Can., Dec. 6.

[You must have misunderstood me. I did not intend to convey the impression that we intended to adopt "perforated" followers—that is, if you mean a double-cleated separator with holes bored or punched through it. I simply meant to say that we intended to put a fence (like the rest) between each outside row and the sides of the supers something (not strictly) after the manner Pettit recommends; and this reminds me that Pettit, in his experiments with slatted followers, found that the bees made ridgy or washboard honey-comb honey. I have since seen a description of these same followers, and find that the space between the slats was $\frac{5}{16}$ inch. This would, of course, produce the ridgy honey. The spaces should not be more than $\frac{1}{2}$, or the width of perforated zinc. If the slots in Pettit's followers had been so spaced he would, I think, have had no trouble. As such followers are cheaper, and easier made, why will they not secure

as good results, exactly, as the "perforated" followers Mr. Pettit recommends? To use fences through the body of the super and perforated followers on each side would complicate matters somewhat.—ED.]

THE LONG-IDEA HIVE.

History of it, and some Corrections.

BY O. O. POPPLETON.

On page 634 of GLEANINGS, Sept. 1, Mr. Doolittle gives a version of the history of "Long-idea" hives, and some remarks on their use. While the history of the origin of any of our implements or ideas may be interesting, they are, of course, not of practical value; but I feel very much like trying to correct the historical part of Mr. Doolittle's remarks.

About 1870, Gen. D. S. Adair, of Kentucky, devised and (I think) patented what he named the "New-idea" hive. This hive was a long single-story one with the entrance in one end, at the side of the frames, instead of at the ends, as commonly practiced. The "new idea" of the general was, as I understood it, having the combs containing brood all in the back end of the hive, with surplus-honey arrangements all between entrance and brood, compelling the bees to pass through the surplus-honey part of the hive to reach the brood, instead of through the brood-nest to the surplus honey, as in tiered-up hives. I do not know who first changed from Gen. Adair's end entrance to having an entrance in the side of hives, and brood-nest in the center instead of in the back end; but I think the change was made and experimented with by a good many of us at the same time. It was not Gen. Adair who gave the name "Long Idea" to the hive. I have always thought the name was first given to it in derision; but as no other yet used describes the hive so well, it has become the recognized name.

The discussion over these hives occurred when I was first starting my apiary in Iowa; and after trying both styles for a year or two I adopted the long single-story hive, and still use it, not having a single double-decked hive in my apiaries. I used about 500 double-story hives for two years in Cuba, and was very glad to return to my own style. I would no more think of using a two-story hive for extracted honey than Mr. Doolittle would think of using the single-story.

The truth is, Mr. D. probably has no knowledge of a properly made single-story hive. Neither the Langstroth nor Gallup frames can be successfully used in such a manner. To use the right amount of combs in either of those frames will spread them out too much—doesn't leave them in as compact a form as they should be for successful use. I have told a great many bee-keepers who asked my advice, not to attempt to use shallow or small frames in such a way. Some of the foreign bee-journals, according to a review of them by Mr. Thompson, have lately been discussing this matter quite fully, and the conclusions

they arrived at were similar to my own—that only deep frames were suitable for use in such hives.

Let me review Mr. Doolittle's objections very briefly. I can work a single-story hive much easier than a double-story. The extra depth of my frame, and a little higher stand, makes the top of the hive the same height from the ground as the top of a two-story Langstroth. I shake my bees inside, not on top of my hives, and avoid the trouble of crawling bees he speaks of. If I remember rightly, I used to be as successful as the average of bee-keepers in wintering my bees in Northern Iowa, and I used the long hive entirely, Mr. D.'s non-success with only two hives to the contrary notwithstanding.

Stuart, Fla., Nov. 18.

THE HOME OF THE HONEY-BEES,

As Seen by Dr. G. L. Tinker.

Having, some time since, sold out his factory, the writer no longer manufactures aparian supplies, and should be able to write without prejudice or selfish interest of the great work being done by The A. I. Root Co. Feeling that the readers of GLEANINGS would be interested, and that it was the duty of some one to make a note of the progress that has been made in the manufacture of aparian supplies, I have concluded to break my long silence in the bee-papers by writing out my impressions of a recent visit to the 'Home of the Honey-bees.'

First, it should be stated that the manufacturing plant of this company, for some years, has been the largest of the kind in the world. The credit of building up such a great work rests with the senior of the firm, a man of much energy and executive ability. It remained, however, for the new members of the firm (Messrs. E. R. Root and J. T. Calvert) to prevail in introducing a large number of new, improved, and costly machines that a higher order of work might be turned out. In this they have been highly successful. Work is not only turned out more speedily than heretofore, but it is finished neatly and accurately. To my great delight I saw all of these beautiful machines in active operation. Every part of the bee-hive seemed to be made in duplicate, every piece being finished perfectly, resembling the finest cabinetwork. There were piles upon piles of hives and parts of hives, the elegant finish of which reminded me that the time had come when one great manufacturing company, at least, has little if any thing to attain in the way of perfect workmanship in every department of their extensive works. The vast amount of labor and expense that has been put forth to reach this much-desired goal deserves recognition by those competent to judge of it, and it is hereby freely given, and without solicitation.

The new narrow section, to be used with the fence, has many things to commend it. It can always be furnished of whiter wood than a wider section; it is economical; it shows off the honey to the best advantage; it is entirely

practicable, and I predict for it a popularity that no other style of section has ever reached. Indeed, it has seemed to me almost the last and best thing to be brought forth to cap the climax of effort to please the patrons of The A. I. Root Co.

The progress in the manufacture of foundation has been as great as in other lines of their work. The new drawn foundation must be classed with the extraordinary accomplishments of human genius. It had very much the appearance and about the same weight of section foundation that had been drawn out and built up by the bees until about $\frac{3}{4}$ of an inch thick. If I hadn't seen the machine on which it is made I should have declared thefeat impossible.

Now a word about the many employees. I think I never saw a more earnest and diligent lot of workers, both women and men. They seemed to work with an enthusiasm quite unlike that observed in most large factories. Mr. A. I. Root seemed to be everywhere present among them, always pleasant and encouraging. I really do not know how many times he went through the factory that first day of December, but it was a good many. Through his kindness I was shown the vegetable-garden under glass. There were ripe tomatoes, and potatoes just coming up, and strawberry-plants with buds set; lettuce-plants, etc. We then went through the potato-cellars, and here were hundreds of bushels of the choicest varieties. They were all large and fine, and must please all who get them for seeding purposes.

Finally, I must observe that there is but one danger, that I can see, to threaten the welfare of the "Home of the Honey-bees," and that is fire. I could not help thinking what a great calamity to the bee-keeping world it would be if fire should wipe out these magnificent buildings with all their fine machinery. No insurance could cover the loss; and so may we all hope that every hand in that great establishment may redouble his watchful care, that such a misfortune may never occur.

New Philadelphia, O.

[We appreciate most thoroughly the kind things the doctor has seen fit to say—first, because they were entirely unsolicited; and, second, because the goods that Dr. Tinker sent out when he was manufacturing were acknowledged the world over to be the finest, in the line of bee-keepers' supplies, of any thing ever turned out. Well, to have the *maker of these goods* pronounce so high an encomium on those of our own manufacture is most gratifying indeed.

The doctor omitted to state that he came here to show us how to run his automatic zinc-perforating machine which we had purchased of him a few days before. To see that machine moving along like a thing of life, working all alone by itself for a period of twenty minutes, without any one near it, is a sight worth looking at. When we first put it in, it had some "balky spells;" but now it does its work silently, minds its own business; and

when it has finished its sheet of zinc it stops of its own "accord," waiting for some one to give it another sheet. I hardly need say the Tinker zinc has earned for itself a reputation that is world-wide.

Dr. Tinker sees only one danger—fire. We have taken every precaution possible. We have a fire-pump, the capacity of which is equal to any city fire engine; 500 feet of hose, hose-carts, hose-couplers, and all other tools necessary to fight fire with fire. In addition to this we have automatic Grinnell sprinklers all over the establishment, so that, if a fire should start anywhere, the sprinkler-valves will open automatically and put out the fire *at the start*, or hold it in check till help arrives. As if this were not enough, we have a watchman who patrols the plant nights and Sundays; and to make sure that he makes his beats at regular intervals he is checked off by an electric time-detector. If there is any irregularity, or he is off for a little time, the clock will show it. In fact, it tells just where he has been all night, and the exact time at each station. But this is not all. The whole property is insured in some of the strongest fire companies in the world; and these companies send inspectors to look over our plant about every sixty days. If floors are not slicked up; if greasy waste or any thing of the sort is allowed to accumulate, we are promptly notified, and ordered to make the necessary changes. Yet, in spite of all this, we may have a fire. But we do not propose to if we can help it.

A year ago last October the freight depot, immediately in front of our works, caught fire from sparks from a locomotive. Before our local fire company with the fire-engine could have got there the building would have been a mass of flames; but almost as soon as the fire was discovered we had a stream from our own fire-pump playing on it. As a result, but little damage was done.—ED.]

Answer.—Before proceeding to the general subject, I wish to say that the desire of our questioner to prepare for the coming honey season, during the winter months, is a commendable one. If more of our bee-keepers and novices in apiculture were built on the same plan, there would be fewer failures with those entering our pursuit, more first-class *white* honey obtained, instead of so much dark, and supply-dealers would be kept busy all the year round, instead of being rushed during May and June, so as to be obliged to run night and day, and then lie partially or wholly idle the rest of the year. I wonder how many apiarists have noted that the call for No. 1 and fancy white honey is *always good*, with the usual "*short supply*" nearly always quoted for the same, while dark and inferior honey is slow of sale, often accumulating on the market till it becomes a drug, or breaks down the market entirely. And I wonder if it has ever entered the heads of bee-keepers that the delay of preparing for the season till the season was upon them was one of the prime reasons for dark honey being put upon the market instead of fancy white. Thus year by year bee-keepers are losing money and ruining the markets by being always behind in preparing for the season, and most of them seem to be ignorant regarding the true state of affairs. They are some like the old woman whose husband was ill. She sent for the doctor, who came, and, after a careful diagnosis of the case, said to the old lady, "I will send him some medicine, which must be taken in a recumbent posture." After he had gone the old woman sat down, greatly puzzled. "A recumbent posture—a recumbent posture!" she kept repeating; "I haven't got one." At last she thought, "I will go and see if old Mrs. Smith has got one to lend me." Accordingly she went and said to her neighbor: "Have you a recumbent posture to lend me to put some medicine in?" Mrs. Smith, who was as ignorant as her friend (without being willing to admit it), replied: "I had one, but, to tell the truth, I have lost it." Rub yourselves awake a little, brother bee-keepers and see if you have not been in a "recumbent posture" quite long enough along the line of late preparation for the honey season. But, to return to the main point.

Yes, it will be necessary to use a queen-excluder in hiving a good or large swarm in a shallow super, as our questioner proposes—especially if he uses sections filled with foundation, and hives the swarms on empty frames, as what he says would indicate he expects to do. But if the plan is carried out just as it is outlined, why "render the brood-combs into wax"? It would seem like folly to make the bees build those shallow frames full of comb each year, or fill them with foundation, for the fun of making them into wax year after year. I often think bee-keepers are as ignorant regarding the value of good straight combs as they are regarding being prepared for the season. Such combs are as good as money in the bank, and I would allow no one to melt up the surplus combs I have, even if he would give me twice the number of square



SHALLOW SUPERS, AND KILLING BEES; HOW TO PREVENT SWARMING.

Question.—I have as many colonies of bees as I care to keep. I produce comb honey only; and as there is no call for bees in this locality I think of trying the following plan: I will hive the swarms in shallow extracting-supers so as to compel the bees to put most of the honey in the sections. Then in the fall I will kill the bees in these shallow supers, and render the brood-combs into wax. What do you think of the above plan? Will it be necessary to put queen-excluders over these shallow hives to keep the queen from going into the sections? Please answer in next GLEANINGS, if possible, as I want to prepare for next season, during this winter.

feet they contain, in foundation. What is there to hinder hiving swarms the next year on those combs from which the bees were killed, and thus save the cost of honey used in producing the material from which they were built, and all the labor of the bees besides? No, no! don't melt up good combs for the fun of it, or for the sake of making the bees build more. But why allow those colonies which are to produce the swarms to be hived in those shallow supers, and then killed, to swarm at all? Don't know how to work for comb honey and not have swarms? Well, then I will tell you how I worked my out-apriary last year without swarms, and had good results as to comb honey.

First, I made as many cages for queens as I wished, by wrapping wire cloth around a stick that was $\frac{1}{2}$ by $\frac{1}{8}$ square. The pieces of wire cloth were cut four inches long. Having the wire cloth formed into cages $4 \times \frac{3}{8} \times \frac{1}{2}$, inside measure, I sawed off as many pieces, $\frac{1}{8}$ inch long, from the stick I wrapped the wire cloth around, as I had cages, when each piece was slipped into one end of each cage and tacked fast. Then other pieces were sawed off, for removable stoppers, to be used in the other end of the cages, when caging the queens. Then as many more pieces were sawed off, which were two inches long. These last had a $\frac{1}{8}$ hole bored through them lengthwise, which hole is to be filled with "queen-candy," when wanted for use.

We will now suppose the swarming season has arrived, which is generally from a week to ten days before our honey harvest comes. I now go to each hive which is strong enough in bees to swarm or to work in supers; catch the queen, put her in one of the cages, using the short stopper to fasten her in. I now look over the combs till I find one which has a vacant space above the bottom-bar to the frame, sufficiently large to admit the cage so it can lie on top of the bottom-bar to the frame. This vacant place should be about one-fourth way back from the end of the frame nearest the entrance of the hive. This, supposing that your frames run endwise to the entrance. If I find no such vacant place I make the same by cutting away the comb. Having the queens thus caged I wait 9, 10, or 11 days, according to the weather, when I proceed to cut off *all* queen-cells which may have been started, shaking the bees off each comb in front of the entrance, so that I may be sure not to miss any. In replacing the combs in the hive I remove the stopper from the cage and replace it with the long one which was filled with candy that morning, so the candy will be fresh. It will take the bees from two to three days to eat the candy out of these long stoppers, which, when done, liberates the queen. While the bees have not been queenless at all, they have been without a laying queen from 12 to 14 days, which I find is sufficient time to stop all inclination to swarm, unless the honey flow holds out more than four weeks, which is an unusual thing. During the time the queen has been caged, the most of the honey coming in has been stored in the brood-combs, unless the bees had commenced in the sections earlier,

in which case they keep right along the same as though nothing had happened. In any event, thus caging the queen seems to change all desire for swarming to that of storing, as soon as the queen commences to lay again, when the honey will go into the sections as if by magic. Why I said 9, 10, or 11 days, according to weather, was that it is all right to cut the cells on either of these days, so we need not go out on severe stormy days, unless it storms on all three. I generally cut the cells on the 10th day, where I can have my choice of days. Then why place the cage just where I have said? I formerly placed it anywhere in the hive where the bees could have access to it, so as to care for the queen; but last season I happened to place the cage on the bottom-bars of the frames in several hives, as given above, and I found that these colonies not only worked better in the sections, but did not seem to consider themselves queenless to an extent sufficient so that any of them started a single queen-cell.

Of course, this matter will need more time than one season to establish the fact that bees will not start queen-cells when queens are thus caged; but I thought it would do no harm to tell just how it worked last season; then if it should so continue each season and in all localities, we could secure better results, with no shaking off the bees to find and cut cells. But in any event I much prefer this plan to taking away the queen entirely, as practiced by Mr. Elwood and others.

And now, Mr. Querist, perhaps you had better try your plan on a few colonies, and the one I have outlined here with a few more, and run the rest of the apiary, for next year, the same as you have done in the past, when you will be able to tell which is best suited to your wants; and after deciding, then work the whole in that way until you find something better. Don't, in any case, risk the *whole* apiary on some untried venture, unless you want to feel like kicking yourself for losing a whole season by something which may fail in your hands.

[Say! look here, Mr. Doolittle. I am not sure but you have struck upon something valuable in the way of preventing swarms just at a time when we don't want them. It is true, a part of the plan is old; but possibly you have improved it in such a way as to remove some of the objections to the old plan. Some have reported that colonies with caged queens didn't work as well as those with queens having their liberty through the hive. In my experience, queenless colonies lacked the vim and energy of queenend stocks. I hope friend D. will jog our memories about the time this thing is in season, so we can all try his plan. The possibilities to be obtained are too great to be lost sight of for want of a trial.—ED.]

K. C. W., Vt.—If you find your hive filled with combs of honey we would not advise you to take any of them out. They will do no harm. Just leave them as they are, and it will be all the better for them next spring.



POISONOUS HONEY.

Living where there are large quantities of *Kalmia latifolia* and *Kalmia angustifolia*, I have read with great interest the different articles on poisonous honey and honey-plants that have appeared in GLEANINGS from time to time. There is no room for doubt that the foliage of *Kalmia* is poisonous to certain animals and also to man. The common name of *Kalmia angustifolia* is sheep-laurel, and was given it on account of its making sheep sick that ate it, which they will do if it is allowed to grow in their pasture. There have been cases of poisoning caused by eating partridge that, owing to deep snows, have not been able to obtain any other food than *kalmia* buds. None of these cases were fatal that I know of.

In regard to poisonous honey, I must say that, so far as *kalmia* is concerned, I do not find any thing to support the opinion that it is a source of it. I have talked with other bee-keepers, and watched the honey stored by my own bees, and can not find that *kalmia* honey is harmful, and I am unable to find any cases of honey-sickness in this locality that can be traced to *kalmia* honey; but if at any time I do find any I will let the readers of GLEANINGS hear of it at once.

All the cases of sickness from honey that I have heard of, I have looked up and found that either the parties ate too much or that honey always makes them sick, no matter what kind it may be or how little they eat of it.

L. F. HIORNS.

Scranton, Pa., Dec 8.

ROOT'S HONEY DISPLAY IN CANTON; HOW IT STIMULATES THE TRADE.

I was quite surprised a few days ago, when the Root Company's display of honey and bees appeared in Canton. I had worked hard for the last four years in building up a honey trade, and was afraid that the Root Company's honey would interfere with it; but when Mr. Weed saw that I was taking good care of the honey trade in this part of the country he did not try to make sales, and kept on with only the display. It was the means of attracting a great deal of attention, and he has set a great many people to talking about honey, and eating it, who had not thought of it before. In this way it will help me. The kind of honey used was the California sage. This is one of the best kinds that we have, and is what I am selling to my customers, and I am now ready for 600 pounds more of it.

Canton, O., Dec. 9. T. A. SWINEHEART.

[To stimulate a demand for honey, and for our honey especially, we have been sending Mr. A. B. Weed, brother of the "foundation man," out to the near-by towns, and this shows what was done in one of them.—ED.]

GRADING BY PICTURES INDORSED.

I like your idea of pictures for grading-rules, and would suggest, when you get them, that they be put on a separate sheet or on a page of advertising matter in GLEANINGS, so we can get them out to have with us while grading.

BENJ. PASSAGE.

Stark, Mich., Nov. 25.

[We expect to get out some pictures as soon as we can hear from more of the brethren on the subject. I'd like to get all the "pointers" possible.—ED.]

THE NEW FENCE AND SECTION.

I am considerably taken up with the new fence separators. I can't help believing they are just the thing comb-honey producers have been looking for. I will give them a trial, and shall want 350 or 400 of them. This has been a great year here for honey and swarming.

J. W. COOK.

Poneto, Ind., Dec. 6.



H. A. B., Pa.—It is not unusual to find bees in bee-trees, wholly or nearly destitute of stores. Colonies found in trees are very often second or third swarms—swarming very late, and gathering very little in the way of stores for winter. In modern times it is very seldom that the first swarm gets away from the bee-keeper. If these succeed in escaping, and are then found in a tree, they will probably have sufficient stores for winter.

H. C. K., Pa.—With regard to the unfinished sections that are half filled or more, I would advise extracting and then leveling the combs down with a Taylor comb-leveler. For particulars regarding this last named, see page 15 of our catalog. Such sections, if put on the hive early enough, may, under some circumstances, be emptied by bees; but the wood of the section would be very much soiled, and it is, therefore, preferable to extract and level down.

R. A. H., Cal.—The cost of a patent will be something like \$75 or \$80—that is, if you have a competent attorney to work for you. But I would suggest that you make formal application through an attorney, and this will make you less than half the expense of the whole patent, and then let the matter rest for a time. You would then be at liberty to submit your idea to us and your friends; and if they thought well of it you could pay down the remaining fees and have the patent formally allowed. This is very often done. The formal application, for at least one year, will secure to you almost as much protection as the patent itself, and meanwhile you would have an opportunity to determine whether it is valuable enough to go to further expense.



Noms de plume are all right enough in their way; but when a writer, in order to screen himself, uses an assumed name in order to cast slurs at a brother-man, he is little better than a coward who skulks behind a tree to throw stones. If a correspondent wishes to correct abuses, or "straighten up" some erring brother, let him come out fair, over his own name. Mud-slinging communications over a *nom de plume*, and anonymous letters, belong to the same category, and have been put under the ban by our best people.

THE Dec. 15th issue of the *Bee-keepers' Review* is a most pleasant surprise. It comes out in a new tinted cover, heavier paper, new type (like this), and is, moreover, very thoroughly and nicely illustrated. A unique feature of this number is the use of a frontispiece printed on a fine heavy grade of plated paper, showing a characteristic sample of foul brood. The contributed articles are good, and the editorial work itself is up to Mr. Hutchinson's own high standard. By changing a single word I can honestly adopt the very sentence that friend Hutchinson used in reference to *GLEANINGS*; viz., "I am proud of the *Review*, even if it is not my own journal."

THE TRANS-MISSISSIPPI EXPOSITION.

THE grounds for the Trans-Mississippi and International Exposition to be held at Omaha, Neb., June 1st to Nov. 1st, 1898, are fast assuming the proportions that assure its becoming the grandest exposition since the Columbian, held at Chicago, and in many features it will excel that great exposition. In the bureau of bee-industries this promises to be the finest the world has ever witnessed, and arrangements are being made to erect a separate building for this bureau, which will be after a modern style of architecture, and whose inside arrangements will be the most complete, with the greatest amount of light possible, both from the sides as well as from the roof. The exhibition-cases will be erected with the building, and, in addition to the usual style of glass sides and ends, will be covered with glass so as to emit the light from above, in order to prevent shading the honey, placed on exhibition, from any direction.

Convenient operating-rooms will be arranged in this building for the convenience of exhibitors in filling their exhibition-jars, and for reliquifying honey whenever occasion demands. It is proposed to allow exhibitors to replace portions of their exhibits in honey of 1897 with the crop of 1898 whenever they so desire. Plans for this building are now being formulated, and we hope to furnish our readers with a cut of the same, together with a description of its interior arrangements before long. The opportunity for bee-keepers to

show the wonderful progress of this industry in the United States, as well as to increase the sale of supplies in the great Northwest, where this industry is making strides beyond the comprehension of many, should not be lost on this occasion. Commissioner Whitcomb, who will be in charge of this bureau, will spare no pains to make the stay of bee-keepers in this bureau as pleasant as possible.

A NEW SPANISH BEE-JOURNAL.

WE have received from the publishers, Messrs. P. Robledo & Co., of Santiago, Chile, the first (June) and subsequent issues of *El Apicultor Chileno* (The Chilean Apiculturist). The pages are the size of this, and 16 of them. The typography is excellent, and the contents good, though necessarily largely of a selected nature, as our Chilean friends are as yet satisfied to learn from the rest of the world rather than to undertake to teach. That the editor realizes the task he has set before himself is evident from his first paragraph. He says: "We have been obliged in our work to take the bees themselves as an example of patience in order to embolden us for the task we have before us. To get up an apicultural review, and especially a review which in its teachings will be contrary to the system already in vogue in this country, and against methods now well understood, seems to be too bold a piece of audacity." That's the spirit that's bound to win, every time. We shall take pleasure in recommending this journal to all who understand Spanish. The first thing the editor undertakes is a defense of movable frames against the old system, which alone indicates the backward condition of bee-keeping in that land. It is edited by Juan Dupont-Lafitte.

THREE COMMISSION HOUSES.

I HAVE sometimes wondered if it would not be a good idea to make special mention of those commission houses that always do as they would be done by. To single out one or two would almost give the impression that the others were not doing as well, when, indeed, they may be giving just as good satisfaction, but we have not the knowledge of the deals. I'll risk speaking of one or two, at all events. As we are doing quite a business in buying and selling honey, we find ourselves obliged to turn over considerable of it to commission houses. We have sold quite a lot in this way to the Columbus Commission & Storage Co., of Columbus, O.; and although this is a comparatively new firm, it has always given us prompt and satisfactory returns.

Still another firm deserves special mention, and that is R. A. Burnett & Co., of Chicago. A month or so ago a customer in California asked us our opinion of this firm, stating that he had an offer from them on a carload of honey, and that he would accept it if we considered them as O. K. We wrote him that we had always heard good reports of them, and that he would be perfectly safe to trust them. A few days ago a letter came, thanking us for the information, and adding that the carload of hon-

ey was sent, and that Burnett & Co. had settled for it exactly as they agreed, and within the time specified.

Chas. McCulloch & Co., of Albany, seem to give excellent satisfaction.

We never had but one complaint against them, and that was settled to the satisfaction of their customer, although we thought the customer wholly in the wrong.

Well, now, really I must stop. There are other good firms; but if I keep on mentioning, until I cover the whole list, some will feel slighted.

WHAT I CALL WELL-RIPENED HONEY.

I BELIEVE I am beginning to enjoy extracted honey more than I ever did before. The kind we have now at our house is white mountain sage. It is very thick to start on; but we pour it out into pitchers, and let it stand a month or so in a dry room before using. At the end of that time it becomes so thick that it will hardly pour out; and when the pitcher is inverted, the honey rolls out in one great stream, and piles up in the dish like a coil of rope. Then comes the fun of cutting off the stream. The size of the rope keeps getting smaller and smaller, after the pitcher is righted, until the filament is less than the size of a common hair. This is cut off with a spoon; but the honey in the dish is so thick that, when the dish is inverted, it will take a little time for it to run out. On dipping the spoon into its beautiful crystalline surface, it will dent clear down to the bottom of the dish before the honey will fold over the spoon. About this time, or when the spoon is sufficiently well covered, it finds its way to my mouth, but not till the spoon has been twisted over and over to break off the filament. The honey is so waxy that it requires almost chewing in order to get it in concision to swallow, reminding one very much of maple syrup boiled down and dropped on to snow. Well, this is what I call well-ripened honey; and any one who has eaten it, when reduced to the consistency I have described, feels very loath to eat any thing else in the way of extracted honey that is not as thick.

If you have any one at your house who does not like honey, set some of the kind I have been describing before him.

I do not claim that mountain sage is the only honey that will taste good when so treated. Any honey, if of good flavor, when allowed to stand in an open vessel in a dry room, will become thick and waxy if given time enough.

HONEY AS FOOD.

EXTRACTS are continually being made from Dr. Miller's honey-leaflet. I have already referred to the fact that two large dailies—one in Columbus and one in Cleveland—had given two long write-ups of honey and its uses as food; and now that great daily, the *Chicago Record*, has a half-column article, almost the whole of which is taken from the leaflet. If these public servants will only keep on copying from it, no one cares about any credit. We bee-keepers want the world generally to know

that honey is the most wholesome form of sweet known. One thing that all the dailies have published so far is the following:

The silly stories seen from time to time in the papers about artificial combs being filled with glucose, and deftly sealed over with a hot iron, have not the slightest foundation in fact. For years there has been a standing offer by one whose financial responsibility is unquestioned, of \$1000 for a single pound of comb honey made without the intervention of bees. The offer remains untaken, and will probably always remain so, for the highest art of man can never compass such delicate workmanship as the skill of the bee accomplishes.

The fact of having thus chased up the comb-honey canard will be most salutary indeed.

As I have before said, we are doing all we possibly can to get these honey leaflets scattered over the United States. We are putting them in all shipments, in letters, in catalogs—in fact, in any thing and every thing that will carry the truth about honey around the world. I have already spoken two or three times about the advisability of bee-keepers visiting their local editors, and asking them to make extracts from the honey leaflet. If you give them a sample of nice honey at the same time, they will be very sure to give you a write-up. Keep the ball rolling.

PRECEPT UPON PRECEPT; HANGING ON TO THE OTHER FELLOW'S COAT-TAILS.

SOME great man has said that it is not the one who says a great thing for the first time, but the one who says it and keeps saying it first, last, and all the time, who is the real benefactor. I believe there is much of truth in it. From my own experience I know that a valuable idea may be put in print by a writer in one of our bee-journals; but unless some one keeps harping on it till some are disgusted and some see the point, the great idea will die, with no one to do it reverence.

Sometimes, I acknowledge, I am slow to catch hold of some good idea that some one else ahead of me may have conceived first; but after I have really "sensed it," as Samantha Allen would say, then I can't keep still. If I continually harp on a thing until it is worn threadbare, it is not because I have a desire to be called a real benefactor, but because I can not help it. Perhaps one or two illustrations will serve to show what I mean.

The non-burr-comb thick top-bar was advocated by only one or two bee-keepers. Dr. Miller, among the first, began to "sense" its real value. After a while I caught on to Dr. Miller's coat-tails, and we two kept whirling around the truth until now nearly all the fraternity has joined hands (coat-tails).

Self-spacing, at one time, seemed to be advocated by only a few bee-keepers. I became seized with the great value of the principle, and began to harp about it until I know some of my good friends began to believe I could not talk about any thing else, and I almost thought so myself. While fixed distances are not used universally by bee-keepers, they have made great strides, and the time may come when unspaced frames will almost be things of the past.

Well, now, here comes along the plain fence and section. Only a very few bee-keepers

have been using them. One friend writes me that he has used them since 1872, and I know of a good many who have used them for the last eight or nine years. They were getting good prices—rather better than some of their neighbors who were following along in the well-beaten track. Well, if I have said a good deal about these ideas it is because I have been trying to hang on to the coat-tails of some of my friends who are at the very front of the procession. Then there is that man Weed. Sometimes I can hang on to his coat-tails and sometimes I can't.

He is riding now two or three hobbies * all at once. That's something I can't do.

Now, please do not misunderstand me, dear reader, for I see what I have already written might be construed as meaning that I myself (whew!) am a real benefactor because, forsooth, I keep talking about great ideas (great in my own estimation); that is not the thought at all. I only wish to apologize for and give my reason for harping, and for keeping harping on certain subjects. No, no. I am not even the motor power, the hub, nor even the felloe in the great wheel of progress. I do not know that I am even a spoke; but one thing I do know—I am willing to get behind and push, if the "some other fellow" smarter than I will only show the way.

W. L. COGGSHALL; HIS APIARIES AND HIS HOME.

ELSEWHERE I have given you a view of the home of W. L. Coggshall, and also a view of Mr. W. L. Coggshall and his two boys, aged thirteen and ten years, in one of their apiaries. Brownie, the older, is the one who goes out with his father and one of the men. Mr. C. told me how himself, Brownie, and Mr. Buck, one of his helpers, once visited four apiaries, took 10,000 lbs. of honey in three days, and traveled 35 miles over the roads. To see Mr. Coggshall and his men at work extracting is a sight to behold, and their methods of working, together with some half-tones, I will give at another time. I hope also to give a view of one of their lightning operators in the very act of ripping open a hive, jerking out the combs, and shaking and brushing bees off with a celerity that is astonishing.

Mr. Coggshall has—well, I don't think he knows how many—perhaps 1000 or 1200 colonies, located in ten or twelve different apiaries. As we rode over the hills he would point out a location that would be something like fifteen miles off, and say, "Over there I have an apiary on top of that hill between those clumps of trees. Over there I have another, and over here another;" and so on he would direct his hand to the various points of the compass.

The yards are usually located in the woods, remote from any house. I could not understand why he should not be bothered by thieves; but after having visited two of his yards I made up my mind that any thief not a bee-keeper who would venture near one of his apiaries, without being armed *cap a pie* with veil, gloves, cowhide boots, etc., would simply

be inviting sure death from the little defenders of the apiary.

In the picture, where Mr. Coggshall appears in the apiary, he has his veil turned up; but let me whisper to you that, when he works among the bees ordinarily, he has his veil turned down, a properly equipped bee-suit, and good thick gloves on. After being in one of his yards a part of a day I came to the conclusion I would do likewise. As it was, the little chaps had a fashion of reaching clear through my golf socks. Indeed, I found it very comfortable to keep my hands in my pockets most of the time, especially when one of his lightning operators was opening a hive *a la Coggshall*.

The hives used are of various patterns. It seems that Mr. C. has bought out bee-keepers in various localities, and in or near those locations has established, with the colonies so purchased, a yard. Having so many, Mr. C. does not find it profitable to change over to the new-fangled fixtures, but uses the hives and implements that he bought with the bees. But whatever hive is used is put in a winter case, for Mr. C. never carts his bees home, but winters them on their summer stands. Sometimes the cases are rudely constructed boxes, and sometimes double-walled hives.

The handsome dwelling shown in the other view was built by Mr. Coggshall some two or three years ago. Every thing about the structure is modern, with all the latest equipments. The farm buildings are substantial, and the fences are cattle and chicken proof. All of these, and more, I believe, were paid for out of the products sold from the hive. Mr. C., besides being a progressive bee-keeper, is an up-to-date farmer. He can talk bees, sheep, or wheat, or what not. He has an unerring eye to business; in short, he is a hustler; and every one who works with him, even his horses and bees, have quick ways of doing things.

I shall have more to say at another time—that is, if friend C. doesn't choke me off.

THE ANNUAL REPORT OF THE UNITED STATES BEE-KEEPERS' UNION.

THE following report has been sent to all the members; but as there is much of importance in it, it seems proper that it should be submitted to a larger circle of those who are friends but not at present members. It is hoped that many if not all our readers will send in their dollars and become members. As a special inducement we will furnish GLEANINGS one year, and membership to the Union for the same length of time, for \$1.75. Send the amount and we will see that your name is given to the General Manager, and that the \$1.00 is properly applied. The following is the report referred to:

Forest City, Iowa, Dec. 10, 1897.

Fellow-members :—I was appointed General Manager by the Board of Directors in April, 1897, without my knowledge, and much against my inclinations. I felt that a wiser and less busy man ought to control the affairs of an organization projected with a purpose so useful and aggressive. I consented, reluctantly, to take charge of your interests for the time being, hoping to be relieved in the near future from the addi-

* I hope to show you a picture of 'em later on.

tional strain which, I was sure, its duties would impose.

The time since the complete organization of the Union has been so short, and the funds at my disposal so limited, it has not been possible to exhibit any tangible results.

Acting under the advice of the Board of Directors I have given counsel in several cases where bee-keepers had gotten into, or were threatened with, litigation, but no money has been appropriated toward defending them. Just how much good I have accomplished in helping to settle these vexatious affairs I shall not pretend to say.

I have also interested myself in the subject of pure-food legislation. There is no doubt in the mind of your General Manager that there is need of national as well as State laws for the protection of food consumers; and I think that an organization representing a thousand of the best and most intelligent people in this country, extending its influence into almost every congressional district, could have, if it chose to do so, power in shaping national legislation. We owe it, not only to our own industry, but to the health of all our people, to compel those who deal in food products to be honest. I have been in correspondence with the special chemist of the United States Department of Agriculture in relation to the adulteration of honey. From a recent letter I quote the following: "I have received numerous letters from different States on this subject, and am led to believe that honey is frequently and openly adulterated. I should be pleased to have your views as to the advisability of calling a convention of the friends of pure-food legislation to meet here in January or February to consider the question, and to reconcile differences of opinion, and unite upon a bill and push it before Congress."

The Board of Directors as now constituted feel the importance of this line of work. Honey can not be produced and sold in competition with glucose syrup; and if the latter is permitted to be sold under the guise of *pure honey*, bee-keepers may better brimstone their bees than to try to sell extracted honey.

No pure-food law ever was or ever will be enacted unless in answer to the demand of the people; neither will it enforce itself when on the statute-books. Somebody must look after it. It is the aim and purpose of this association to aid in the enactment and enforcement of laws in States and nation, protecting apian interests.

Another field of usefulness which this association has outlined, is the bringing to justice of dishonest honey commission men. I believe the simple fact of our organization and declaration of intentions has already had a wholesome effect on this class of swindlers. We purpose, if evidence is produced, showing fraudulent dealing with our members, to employ the best legal talent obtainable, and to make it so hot for all such fellows that they will want to emigrate to the Klondike or some other cool region, where the stings of conscience and a Bee-keepers' Union are supposed to be unknown.

We have been solicited more than once to help bee-keepers out of trouble who are not members of the Union. It ought not to be necessary to say that this organization was effected "to protect the interests of its members; to defend them in their lawful rights." While we intend to protect the industry of bee-keeping and promote its interests in every way possible, no one can reasonably expect personal aid who does not affiliate himself with the Union. Let us learn a lesson from similar industrial organizations—the dairy associations for instance. Let us put aside jealousies and bickerings and unite in one powerful organization, and march to victory.

The Executive Committee have directed that the postal-card ballots for Directors and General Manager be sent to Dr. F. L. Peiro and F. Grabbe. Please denote your choice for these officers on inclosed card, and mail same before Jan. 1, 1898.

FINANCIAL STATEMENT.

Required by Section 5, Article IV. of the Constitution:
 Amount received from Secretary, Dr. A. B. Mason \$180 09
 Amount received from members direct and other sources 23 00

| | |
|--|----------|
| Total rec'ts to Dec. 10, 1897 | 203 09 |
| Paid for letter-heads, postage, postal cards, envelopes, and printing annual report and other blanks | \$ 21 00 |
| Balance | 182 09 |
| | \$203 09 |

It may be thought by some that the net balance from about 250 paying members is quite small. It should be borne in mind, however, that the necessary expenses growing out of two annual meetings had to be met by the Secretary. These expenses, such as printing programs, publishing proceedings, badges, postage, etc., and \$25 as a very inadequate compensation to the Secretary, all amount to \$57.16. The other expenses shown above are unavoidable. If our membership were 1000 the expenses would be but little more.

Trusting that information I have given you will be satisfactory, and that, during the year to come, we will all be blest with health, prosperity, and happiness, I am

Sincerely and fraternally yours,
 EUGENE SECOR, Treas. and Gen. Man.

WE have piles of matter awaiting publication. Beginning with the next issue we shall have to run extra pages until it is all used.



OUR 1898 SUPERS, FENCES, AND SECTIONS.

The following is some matter that I have prepared for our forthcoming catalog. As it details just exactly the position we will take in regard to the improvements in supers for the coming season, we give it to our readers before sending it out to our larger circle of friends and customers. I think we are now in a position to furnish every one just what he wants in the way of a fence and plain sections. As we have machinery and appliances we are in a position to turn out a product in the way of fences that will be accurate and cheap. Having personally visited and corresponded with many of those who have used fences, I think we are able to give our readers what will prove to be satisfactory and practical. A fence that is not properly made will give no end of trouble.

DOVETAILED SUPER WITH PLAIN SECTION AND FENCE.

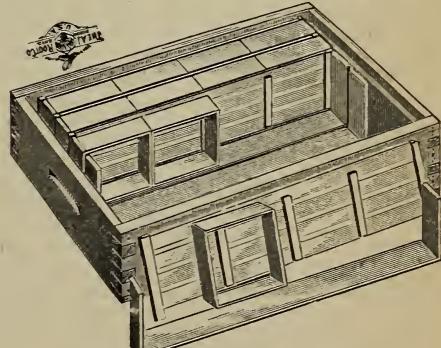


FIG. 8½.—Designated as P.

This is the same super we have sold for years, only it is adapted to receive the new fences and plain sections. These latter are $4\frac{1}{4}$ inches square and $1\frac{1}{2}$ wide, and this width will hold just as much honey exactly as the old two-bee-way section $1\frac{1}{8}$ inch.

The fence is made up of four horizontal slats $\frac{1}{8}$ inch wide, $\frac{1}{2}$ of an inch thick, and long enough to reach into grooves in the end cleats. Six cleats $\frac{3}{8}$ of an inch

thick, and $\frac{1}{2}$ inch wide, including the end cleats, are glued on at our factory by automatic machinery much more cheaply and accurately than it can be done by hand. The cleats, it will be observed, do not reach quite to the top of the fence. The object of dropping them down thus is to give the bees passageways around the corners of the sections, thus doing away, to a considerable extent, with holes in the corners of the sections.

The section-holders are the same width as the sections ($1\frac{1}{2}$ inches), and, like them, have no bee-ways or awkward scorings in the bottom-bars. The ends are only $\frac{1}{4}$ inch thick (instead of $\frac{3}{8}$, as were the old ones), leaving a bee-space between them and the end of the super. To prevent end play a wedge-shaped strip at the bottom secures the holders to the proper position.

Instead of making use of a follower we use a fence on each outside row of sections, thus in a measure carrying out the Pettit system of producing comb honey, the special feature of which consists in having the outside rows of sections as well filled out as those in the center. When the last fence is in, the whole is wedged up with a thin wide strip.

THE FENCE AND SECTION FOR THE OLD-STYLE SUPER.

There are many who, having purchased our supers of older pattern, desire to use the fence and plain section, and thus keep up with the times. Sections they would have to buy, as a matter of course, so that all the expense will be for fences enough to supply supers they desire to so equip. The fence for this purpose differs a little in construction from that shown in the super in Fig. 8 $\frac{1}{2}$, but only in the form of the end cleats. Instead of being grooved to receive the ends of the slats, as in the other, they are plain, and the same as the middle cleats, only a little narrower and longer. As the section-holder of the old-style super is $1\frac{1}{2}$ inches wide, the plain section with the cleats of the fence, one on each side, just nicely fills up the space; and, as the horizontal slats project beyond the end cleats, these projecting ends fill up the space between the section-holder ends the same as the old plain separators did. This fence is designated as the S fence.

TALL SECTIONS FOR EIGHT-FRAME SUPERS.

Within the last year or so tall sections, taller than broad, have been growing more and more into favor, and it is argued that they look more symmetrical, since in appearance they are more in harmony with surrounding objects with which we are familiar (such as doors and windows, for instance), and to which our tastes have been educated by long association. Again, it is argued that the tall box of honey standing right beside a square one of the same superficial surface and weight appears to be larger. Whether these advantages are apparent or real, it is certainly true that, in some markets at least (not all), notably in the East, the tall sections sell more readily, and bring a higher price. In recognition of this fact some bee-keepers actually opposed to them have been forced to adopt them after they saw that the oblong boxes would outsell their square ones on the same counter. It is equally true that, for a given hive surface (that is, over the top of the frames), more of the tall boxes can be accommodated. For instance, our eight-frame hive will take on top 30 of our $3\frac{3}{8} \times 5\frac{1}{2}$ inches, as against 24 of the regular $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$, and holding exactly the same amount of honey. Of course, a deeper super would be required to take a deeper section, but fewer supers would be needed to produce a given amount of honey.

If a deep section, then what size shall it be? The 4×5 seven-to-the-foot is a nice size, but it can not be used to the best advantage in the eight-frame width of super, which comes nearer being standard than any thing else. Our $3\frac{3}{8} \times 5\frac{1}{2}$ holds exactly the same amount of honey as our regular $4\frac{1}{4}$ when used with the fence; and, moreover, five of them in a row just exactly fill out the length of the super.

IDEAL SUPER WITH TALL SECTIONS.

This super is equipped with fences and plain sections, the same as our other up-to-date supers; but the sections are $3\frac{3}{8} \times 5\frac{1}{2}$, and the super is $5\frac{1}{4}$ in. deep, or enough to accommodate the five-inch depth of sections. The sections themselves are supported on plain slats $\frac{3}{8}$ in. thick, and the same width as the sections—the slats resting on a tin strip nailed on the bottom inside edge of the ends of the super. The

fences are supported in the same manner: and as they rest between the slats on this tin support, the bottom of the sections and the slats will always exactly match; i. e., be in exact alignment—a matter of no

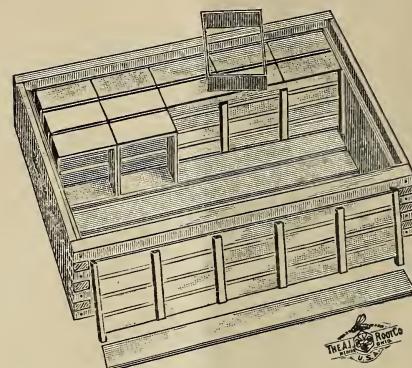


FIG. 9 $\frac{1}{2}$.—Designated as I.

slight importance. Five sections are supported on each slat—the five just exactly taking up the entire length of the super; and six slats, each with its five sections, or 30 in all, with the seven fences, fill up the super. It will be noted in this connection that these slats, unlike section-holders which are used in the other super, have no uprights at the ends. While they are a convenience in shifting the several rows of sections, they are not essential, and are omitted, as they can not be used in this super.

The style of this super is no experiment. Something very similar to it has been used for years by that practical bee-keeper Miles Morton, Groton, N. Y., after whom we have copied much.

N. B.—The $4 \times 5 \times 1\frac{1}{2}$ plain sections may also be used in the eight-frame deep super, but the supporting slats, as well as the sections, will have to run crosswise of the super—an arrangement we can not recommend. We can so arrange our eight-frame $5\frac{1}{2}$ -inch-deep super for these sections, when so ordered, without extra charge. Designated as L.

SUPPORTING-RACK FOR TALL SECTIONS.

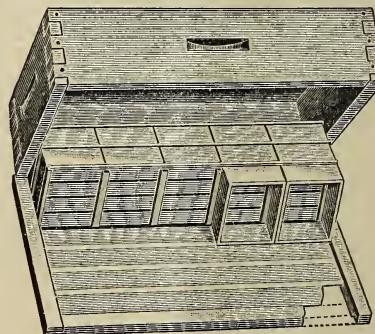


FIG. 10 $\frac{1}{2}$.—Designated as RI.

Some (and perhaps many) of our old customers will wish to test the tall section in their markets at as little expense as possible. For such we have arranged a rim to go on the bottom of their regular eight-frame dovetailed super. This rim is made of stuff $\frac{3}{8}$ inch square, and on the two ends, on the bottom inside edge, are nailed strips of tin to support the slats which are furnished with the rim. With this arrangement and fences one can use our $3\frac{3}{8} \times 5\frac{1}{2}$ -inch sections in his regular super on exactly the same plan as is described under Fig. 9 $\frac{1}{2}$. Indeed, in connection with the fence it makes a super, to all intents and purposes, that is identically the same as our Ideal super, and can be used in exactly the same way. If the five-inch-deep sections take well in the local market, the rim may be nailed on to the bottom permanently.

This same supporting rack may be made to take the $4 \times 5 \times 1\frac{1}{2}$ plain sections, but the sections and slats will have to run crosswise of the frame, and will be designated by RL.

OUR HOMES.

Then ye shall appoint you cities to be cities of refuge for you; that the slayer may flee thither, which killeth any person at unawares.—NUM. 35: 11.

Away back in the early ages, when matters of law were in their infancy, a man was often in danger of being punished when he was at least comparatively innocent; and our text tells us that God, through Moses, directed that cities of refuge should be appointed, about equally distant, three on either side of the Jordan. These cities were to be literally places of refuge for any one who was in danger of being injured or killed by mob rule. I wonder if our law-makers of the present day have ever thought that it begins to look as if we ought to have cities of refuge now, where a man may be sure of being protected until he can have a fair and impartial trial. Just now, however, I have something else in mind. My attention was called to this matter by an article in the *American Agriculturist* of Dec. 11, entitled "Mothers' Meeting." The article was written by H. Annette Poole, and she speaks of being present at a mother's meeting here in our own town of Medina. The meeting was conducted at that time, it seems, by Miss Sarah Smith, the lady who furnished an article that we sent out in tract form a year ago, entitled "Child-training." See page 28, 1897. Well, Annette Poole, in describing her visit to the mothers' meeting, writes as follows :

The text for Miss Smith's heartfelt sympathetic little talk was "Cities of Refuge." Speaking first of the places described in Scripture as set apart for hunted criminals, she went on to the thought that every little child should find a sure city of refuge in its mother or its teacher, not only from its own naughtiness, but from its inability to express its ideas. Children are often silent under censure because they do not know how to put into words the thoughts which fill their brains, and they often feel that they are unjustly blamed because they can not explain their motives. Mothers and teachers should try to help their struggling utterance, and, as far as possible, put themselves in the child's place. We are too prone to hush the chattering tongue and bid the little one "run away" and "not bother." True, to patiently sit down and try to unravel the child's interest, when it scarcely knows it itself, to help it to know and express its own purpose, consumes a great deal of time, and the day scarcely furnishes time enough for the manifold duties which crowd upon both mothers and teachers. But, after all, who has a better right to demand our time and attention than the children in our care?

When I read the above it appealed strongly to my feelings, and I was obliged to look back and note the different times when I have misunderstood children. Let me give one illustration:

When Huber was beginning to talk so as to make himself understood, he on one occasion had been behaving badly. I think his mother advised that papa should "talk" with him. He seemed (at least so it appeared to me) stubborn and contrary. The only response I could get in explanation of his bad conduct was that he "didn't care." I talked with him long and earnestly; but still he said, "I don't care." Then I presented the subject from another point of view. I explained to him the consequences of deliberate and persistent wrong-doing. He heaved a little sigh—a very little one—but still insisted he didn't care.

Then I suggested punishment—told him there was not any thing else for a kind parent to do. Finally he enlarged his statement a little with something I did not quite understand. His little lip began to pucker up, and then I made out that he was trying to say, "Papa, in honest *troot* I don't care." He had understood me enough to know that I was doubting his statements. Among his little playmates he had heard somebody say "honest truth"—an expression they had probably used to assure their comrades that they were not joking or making believe. The statement was *really true*, and he tried hard, with his awkward little tongue, to make his father understand that he was really honest, and not telling an untruth; and I understood, too, that he was at least now really sincere, and that he, my darling boy, was not wicked and stubborn, but that he was a good boy, as he always had been; but what could the child mean by continually insisting he didn't care? A little careful questioning brought it out. By the expression "didn't care" he meant. "*I didn't mean to.*" It seems funny that the child should have got things so mixed up that he kept saying he didn't care when he was doing his level best to make me understand that he did not mean to be bad, and make mamma trouble. He could not deny his fault, and did not try to, for he knew that his parents knew he was guilty of just what he was accused of. He wanted to tell us, but his juvenile vocabulary was too limited to get into words that would indicate he did it by *mistake*, or without *thinking* of the consequences. Oh what a relief it was to fold my boy in my arms once more, and then it startled me to realize that I came pretty near punishing—yes, punishing a good pure-hearted, noble baby—for he was but little more than a baby—when he was entirely innocent of any willful offense or misdemeanor! At that time I breathed my little prayer, "Lord, help!" and if I did not make the prayer any longer it was because I felt that the dear Savior knew it included that he should help me through all my future life to be careful—oh so careful!—that I did not, in my constantly enlarging field of work, wrong any human being just as I had come so near grievously wronging my own child. As I go over the matter, recollection goes back, and I think of the many times when I have scolded severely, or made up my mind I would scold, when the offender was about as innocent as our own Huber.

A few days ago we were speaking about the annoyance of having so many of our helpers (more than a hundred in all) get around late to their work. Some of the firm advised fixing a penalty for being even ten minutes late. But I urged them not to do it. All such rules are so liable to punish or severely wound the feelings of some one who does not need any discipline at all, that I strongly objected.

"Let me collect the names of the delinquents, and try a personal talk with them."

The objection was made that we had tried that thing enough already.

"But let me talk with them just once more, and let them know I do this just before undertaking something more severe."

During the day I managed to talk with pretty nearly all who have been coming late; and when I closed my eyes at night, oh how glad I felt that I had had those little friendly talks! I presented the matter so quietly and kindly that each offender looked me squarely in the face, and smiled in return as I invited his confidence. We talked about taking off an hour for one who was fifteen minutes late; but how could I bear the thought of having one of those boys work for me half an hour or more without pay, just because he was late in getting to work? Even if it were true that it cost us that much to put up with their tardiness, I should feel guilty with even one copper of their money in my pocket. Some of the older ones who were late spoke of a sick wife at home, and no one to do the work. Some of the boys have widowed mothers. Another one could not get his breakfast in time. He either had to go to work without a good warm meal to start with, or else be late; and I can very well remember, even if it was years ago when I was a boy, that, if you wanted me to do good service, you would have to have me fairly fed to start with. May God help each and all of us who are older to remember the time when we were boys! May we (for *their* sakes) be boys again in heart for the time being!

A few days ago I finished my fifty-eighth year. I am getting toward sixty, and I discover that I like to have things quiet. The grandchildren come in occasionally; and as they are healthy and boisterous they sometimes come pretty near "raising the roof," it may be just as I come home tired out with many cares. They know very well that they can shout and tumble around, and have a big time when there is no one but grandma in the house; but I am afraid they are in the habit of looking a little suspiciously sidewise when grandpa comes; and just now I am taking the ground that the grandpas as well as the grandmas should be literally "houses of refuge," or cities of refuge.

In our business the complaint is often made that the boys and girls, especially the younger ones, do not talk enough. They do not explain things, and tell us of the difficulties that are in the way of obeying orders. Well, I am afraid we do not *invite* confidence. At times I am perplexed and annoyed by some habit or fashion these young friends have of doing things. After I have thought about it, however, and prayed over it, and then taken the time to have a good square talk with the offender, what a difference it makes! After I have made him feel I am his friend, and not always looking about for something to scold about, or to find fault with, after having broken the ice so that he feels he can give me his *confidence*, and talk freely, what a difference it makes! There are reasons for his conduct, that I had never thought of. Sometimes he has queer ideas of things that need to be set right. After each and every one of these talks, when I have made this boy or girl I did not know very much about understand I have a friendly interest in the welfare of both, how differently they appear afterward! With what

cheerful and ready alacrity they set about helping me in that which I wish to accomplish! Saying "Don't do this," and "Don't do that," and "You ought to know better," and such like expressions does not make young people handy and helpful. It takes lots of time to explain, I know. But what are we here in this world for? May God help us all to keep in mind the thought that humanity is of infinitely more value, and more worthy of our time and pains, than all else that this world can furnish.

I had in mind in this paper speaking of places of refuge for grown-up children, but the subject is too great. A few days ago I read of a man who had been fourteen years in the penitentiary. At the expiration of that time, somebody on his deathbed confessed that the condemned one was entirely innocent. He had given fourteen of the best years of his life because he was unable to prove his innocence. The whole wide world had turned against him. There was no place of *refuge* where he could get justice. Perhaps he had a wife and children, and may be some intimate friends who knew of his unjust punishment. I wonder if such things happen very often. Let us try to imagine ourselves in his place at the time of his trial. It has seemed to me, in thinking over things of this kind, that, with my natural vehemence, I could convince people of my innocence. But sometimes this very vehemence is mistaken. People say he puts it on for effect. We are accustomed to boast of our country—its freedom, and of its laws; but yet there are many times when even the laws of our land seem to furnish no city of refuge. When we are sick we hunt up a doctor. If one doctor fails we get another; and we say, in this enlightened age of ours, "I am sure there must be a doctor who can manage this thing." But the doctors make mistakes, and fail as well as the lawyers.

Every little while we have to face the fact that death is just before us. Is there a *refuge* even then? May God be praised that He who created the universe has not left us alone when all human help has failed. There is a *refuge*—the dear Savior who said, "Whosoever liveth and believeth in me shall never die;" or, in the language of the Psalmist, "God is our *refuge* and strength, a very present help in trouble." If, then, we would have these younger ones believe in Christianity—if we would have them learn to put their trust in Christ Jesus when parent, employer, and everybody else seems to misunderstand, let us bear in mind that one of the surest ways to bring a soul to Christ is to invite the confidence of these younger ones. Employers are too often disposed to cut short abruptly any complaint from the one who is doing the work. Of course, people can not always agree. It seems a great many times best for employer and employee to let their relationship cease; but if it were only done after a friendly talk on both sides, so they could part friends, how much better and happier this world would be! I have urged the younger members of our firm to be careful about dismissing a man, with unkind feelings on both or either side. Talk the

matter over pleasantly, and then bid each other good-bye in a way that will leave the matter in good shape for pleasant business relations in the future if such should come about. Let every human being know that he can feel that, no matter what has happened, he can come to you in the future, feeling sure of your friendly sympathy and co-operation. Who has not experienced the value of a friend in time of need? and what a place of refuge it is in very truth when we have met unexpectedly just the kind of comfort we sadly need! Is this nation of ours, as we begin the year 1898, furnishing cities of refuge, not only for the people of our land, but for every burdened soul who is honestly and earnestly trying to do his duty? If not, then will you, dear reader, try a little harder to make your home and yourself a place of refuge to some burdened soul who has been unable to make itself fully understand amid this busy, rushing age of ours? And now may I, after all this preface, wish you a happy new year?

BIBLES FOR PREMIUMS.

The man who sees only evil and nothing good in the events of this rushing age is certainly getting a wrong view of things. I have been pleasantly astonished of late to see that pushing the business of offering Bibles for premiums seems to be taking the precedence of almost every thing else. Periodicals that one would hardly expect to give space to even a favorable mention of the Christian religion are offering Bibles as premiums with a vehemence and vigor that is astonishing, and the matter seems to be on the gain. The Bibles are beautiful, and, so far as I have been able to discover, they are even cheaper than those sold by the American Bible Society. The secret is, that the publisher agrees to take a very great quantity; and in this age of rapid and not only accurate but nice printing, great progress is being made. Our own children have been sending for magazines that we probably would not take except to get the beautiful Bibles offered. The combination reads something like this: A Bible worth \$5.00, clubbed with a magazine worth \$1.00, and both together for only \$3.00. So you get a \$5.00 Bible for only \$2.00, or a less sum. Now, this is all right, if the people who are pushing the Bibles do not stretch and exaggerate in their urgent entreaties to have every one buy. I am glad there is money in our country to buy Bibles in such quantities, and it rejoices my heart to see every man, woman, and child (I guess that is right, is it not?) have a beautiful, convenient, and handy Bible. Some kind friend has just mailed me a beautiful edition of that quaint old book—yes, it is 480 years old—called “The Imitation of Christ,” written by Thomas à Kempis long before America was discovered. In the very first chapter I read:

If thou knewest the whole Bible by heart, and the sayings of all the philosophers, what would it profit thee without the love of God and without grace?

I hope and pray that God's grace may find its way into the heart of every one in our land who has in any way become the possessor of

one of these beautiful Bibles I have been talking about.

Health Notes.

SHALL OUR DEPARTMENT OF AGRICULTURE ENCOURAGE THE TOBACCO INDUSTRY?

A few days ago a bulletin was received from Washington, D. C., offering prizes from \$15 to \$150 for articles on growing tobacco, and preparing the crop for market. I took the liberty of writing a remonstrance. Below is a reply:

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF SOIL,

WASHINGTON, D. C., Nov. 30, 1897.

Mr. A. J. Root—Your letter of November 27 has been received, criticising me for publishing bulletins on tobacco. Tobacco is one of the staple crops of large areas of this country. The people raise it, and find good markets for it, both in this country and abroad. In the same way hops and barley are raised for beer; corn and rye are used for the manufacture of distilled liquors; apples are used for brandy, and, grapes are grown in great quantities for wine. I do not approve of the excessive use of any of these beverages; but my personal feeling in the matter has nothing to do with my official work of investigating the soils adapted to particular crops in the United States which the people elect to grow.

If tobacco is grown, it is better to raise good tobacco than poor. Good cigars are less harmful than bad ones. The finer types of tobacco for cigarettes, chewing, and smoking, are far better for the morals and material welfare of the people than poor grades, which are produced in such quantities. If for no other reason than this, the Department is fully justified in efforts to improve the quality of the tobacco grown. It is conducive to both the health and morals of the people.

I have never thought of advocating the use of tobacco in any of the bulletins I have published. This is a matter for the people themselves to decide upon. As an individual, I am an advocate of the moderate use of the cigar and pipe. They have done much good. So has the horse and so has the bicycle, yet we all know that much harm has come from both of these. We want to be consistent and thorough, however, in this as in other matters, and have as good tobacco as can be raised, and raise it in the most economical and profitable manner.

Respectfully,
MILTON WHITNEY,
Chief of Division.

Permit me to make a little objection to the arguments used above. Corn, rye, apples, and grapes are all used for food, and were *designed* for food, evidently, by the great God above. They do not require an almost complete transformation of the body to keep one from throwing them up when eaten, nor do they produce, in a natural state, delirium tremens, cancerous sore throat, color-blindness, and enough other evils to fill the box of Pandora full to overflowing. *Tobacco is a poison*. It has no legitimate use, that I know of, unless it is for poisoning insects that annoy the cultivator of the soil. I did not know before that *good* cigars are less harmful than *bad* ones. By the way, where has the experiment been tried on a large scale, to prove conclusively that “*good*” cigars are better than “*bad*” ones? What is “*good*” tobacco except that which has more nicotine in it than some other? and would tobacco be used except for the nicotine, any more than liquor would be used except for the alcohol in it? Is not the very thing that makes tobacco so dangerous to the human system the very thing that commends it to the officers of our government? I suppose the way in which

good tobacco is conducive to both health and morals is in substituting it for bad tobacco. Whether the writers of said bulletin thought of advocating the use of tobacco or not, it seems to me that these government bulletins, with the premiums offered for articles on the cultivation of tobacco, do advocate pretty strongly the use of it.

I confess the comparison of the horse and bicycle to the tobacco habit seems to be rather wide of the mark. Horses and bicycles sometimes do harm—or, rather, men do harm with them; but I do not see where the "sometimes" would come in in the matter of tobacco, as there seems to be *no* let up in its bad effects. And may I be permitted to call attention, not only of Milton Whitney, but also of the Department of Agriculture, to the position taken, almost without exception, by the teachers in our land, our college professors, the medical fraternity, and last, but not least, by the mothers of the boys? Is it not proper and fitting that the mothers and teachers should have a voice in regard to it? Of course, I obtained permission to use the above letter for print. In connection with the permission came the following, which I have taken the liberty to head—

" WHO IS RESPONSIBLE? "

I have no information in regard to the use of opium in cigarettes. I know that it is a common idea that such things are used, but it has never come within the province of my official work, and I have never made any official investigation of the matter. Dr. H. W. Wiley, Chief of the Division of Chemistry, would be the man to consult in regard to adulterants found in cigarettes. I will only say that it is not necessary to use such substances, nor to use flavoring of any kind, as the natural leaf, if of first-rate quality, is far better, to my mind, for a light smoke in pipe or cigarette, than any of the manufactured brands. What is put into the tobacco, therefore, is merely to meet a demand of the people. It is a good deal like the newspapers of to-day. I do not myself believe in the enormous size of the Sunday papers and the free use of illustrations; but they seem to appeal to the general public, and seem to be necessary, for nearly all the papers are issuing enormous illustrated Sunday editions. Public sentiment is the only thing which can modify the practice. Very truly yours,

MILTON WHITNEY,
Chief of Division.

You see, friends, our Agricultural Department, or at least the writer of the above, casts the responsibility back upon the people; and our electric railways are at the present time evading the responsibility very much in the same way. They say their business is to carry the people; and they certainly would never think of running their trains on Sunday if the people did not demand Sunday trains. While there may be *some* truth in this, and while the fault is doubtless partly ours in wanting to grow tobacco and in wanting Sunday papers, or in asking to be carried about on the sabbath day, I still insist that the Agricultural Department of the United States should have something to do in the matter of advising and encouraging *wholesale* industries, such as growing strawberries, and *discouraging* an industry that seems almost if not altogether baneful and bad in its final results. Certain it is, the indictment against tobacco is a long and fearful one; but not a bit of human suffering can be traced to the fact that a man *never began its use*.

MEDICINES FREE OF CHARGE.

In many of your home papers you will see a whole column advertisement, with pictures all along down the reading, representing those who have been more or less deaf for years, and claim to have been cured. After giving all these testimonials, at the bottom of the column we read, "Medicines for three months' treatment free." When I saw this in so many papers I wondered how this great doctor could pay such enormous sums for advertising something to give away. One of our correspondents has posted me, however. He wrote for the free medicines, and received a very nice letter which looks very much as if it were written with a typewriter, but it is not. In this letter he says he does furnish the medicines free of charge, but adds that they can not be applied without an instrument called the air-medicator, to throw the medicine up through the nostrils to the organs of the ear. The medicines and instruments are worth \$17.50; but if you send right away you may have the whole for \$7.50, the price of the medicator alone. Please notice, I am not at present prepared to say that this doctor does not cure or help deafness; but I want to protest against this whole way of doing business, and advertising one's self as a philanthropist who cures disease just for his love for humanity, when the truth is you must pay \$7.50 for an instrument that may not cost more than 25 cents. Our friend wants to know if I would advise him to send the \$7.50. Certainly not. I would not send money to any doctor who advertises treatment free, and then gets around it this sort of way.



OUR GOVERNMENT WEATHER BUREAU.

I have said a good many kind words for the *Rural New-Yorker*, but I have now found one thing in it I want to scold about a little. See the following:

"Papa, how do the people in the Weather Bureau find out what kind of weather we are going to have?" "I didn't know that they did, my son."—*Yonkers Statesman*.

I do not believe it is well to encourage people, even by way of a joke, to class the Weather Bureau with the weather-quacks such as Venner, Hicks, etc. I not only watch the weather daily but hourly. With my electric lamp I look at the barometer just before going to bed and the first thing on getting up; and during the month of September our Weather Bureau, in making over 50 predictions, did not make one that could really be called a mistake; and during the month of November, when it rained almost every day, and the weather was changing every hour or two, they mapped it out from 24 to 48 hours ahead almost as well. One who takes pains to inform himself in regard to the machinery used by

the Weather Bureau, and the results accomplished, can go ahead and make his business calculations dependent on the Weather Bureau predictions, and rarely have a mishap.

One strange thing in regard to weather predictions is that many people, and perhaps most of them, will regard a Hicks or Verner as infallible for a whole year ahead if he happens to make a prediction that seems to be even partially fulfilled, and yet fails on every other occasion; while if the Weather Bureau seems to make a mistake in one locality, on one occasion, one day, it is held up as being wholly unreliable every day in the year. The Weather Bureau does not pretend to tell what "the weather is going to be." It simply tells what it actually is at certain points, and what it probably will be at other points when existing and moving conditions reach such points.

SUBSOILING.

Since writing on page 895, last issue, it has occurred to me to mention that, in our beds made on the plan of the new agriculture described in our little book, "What to Do," we have for many years grown squash and pumpkin vines of enormous vigor and productiveness; and while making our potato-cellars we were obliged to go down to the bottom of one of these reservoirs for water, and there we found pumpkin and squash vines three and even four feet deep, with a lot of fibrous roots drinking up the water that remained there during a severe drouth. These vines during the hottest and dryest weather were growing like Jack's beanstalk, climbing over everything, and making squashes and pumpkins at an enormous rate.

GINSENG CULTURE.

Here is what Greiner says about it in the last issue of the *Practical Farmer*, and I feel sure he is about right. If you want to try a few plants on a small scale, go ahead, but do not put much time or money in it just yet.

Ginseng culture has not yet passed the experimental stage. Thus far only those who propagate ginseng for seed and roots (to sell for planting) are the ones who recommend it as profitable. Perhaps they find it so long as they have sale for the mentioned products.

GROWING RHUBARB IN FLORIDA, FROM ROOTS SHIPPED FROM THE NORTH.

On page 386 of *GLEANINGS*, where you are speaking of a "Book on Rhubarb Culture," I find the following: "One thing I was pleased to learn was to find that, like asparagus, rhubarb must be frozen first, and then thawed out by an artificial spring, or a real one, before it will grow successfully. This tells us why so many failures have been reported in regard to growing rhubarb in Florida. It can be done successfully, however, by shipping roots south after they have been once frozen up."

With your permission, Mr. Editor, I will give my experience in taking rhubarb-roots from the North after they had been frozen, and planting them in Florida. Three years ago, about the last of December, as I was about starting for Florida a friend came in, saying, "I want to make a contribution for Florida: here is a basket of rhubarb-roots, and I want you to take them with you and plant them there." I said, "My baggage is all gone, and it is only twenty minutes to train time, and I don't see how I can take them." Seeing an empty shoe-box I filled it with the roots, taking them with me.

While stopping at Pensacola, waiting for a boat to cross the Gulf of Mexico, I said to my landlady, "This box contains rhubarb-roots that a friend brought me after my things were packed." She said, "Oh! give

me one—just one root. I want to see if it will grow here. When I lived at St. Andrews, I planted rhubarb a dozen times, and they grew nicely. Always, about the time when I contemplated making a pie, I would notice the leaves falling over upon the ground. Digging down, I never could find any root, and I want to see if it will be the same way here."

On my arrival at my winter home I planted my rhubarb roots in this way. In order to outwit the moles or salamanders from eating the roots, I dug holes and lined them carefully with broken window glass; filled them with rich compost, and planted them, covering the surface with oyster-shells, with a little space open above the crowns. The weather was warm and damp, and in short time the leaves appeared, growing finely. I watched them with much interest, and one morning saw the leaves lying flat upon the ground. I could not discover the cause: there was no evidence of either worms or moles; the roots had disappeared. The ground where the rhubarb was planted was formerly hammock, covered with scrub oak and saw-palmetto. It seems to me I was told that rhubarb would live on ti-ti land, but I am not sure of it. I've never seen any of it growing.

My experience with asparagus in Florida has not been flattering. I fertilized heavily, and cultivated carefully; and when the stalks appeared they were small and spindling. It may do well on ti-ti land, or where the ground is wet by tide.

MRS. L. HARRISON.

This seems very strange indeed. My impression was that our good friend Mrs. H. had got at the truth of the matter in suspecting that some Florida animal had eaten off the roots; but her last experiment would indicate that they just rot. Now, why they should rot down after they have commenced in the South is very queer. My impression is that several parties to whom we have shipped barrels of roots have made at least a tolerable success with the undertaking.

THE BOVEE POTATO COMPARED WITH THE NEW QUEEN, ETC.

Some little time ago the *Rural New-Yorker* suggested that the above two potatoes were quite similar. I wrote our Experiment Station in regard to it, and they replied as below:

Mr. Root—I wish to call attention to one fact concerning the Bovee potatoes which we sent you. As you probably know, they were grown from seed planted about July 1st. I find that late-grown potatoes have a different appearance from those of the same variety grown early in the season. Wherever there is the least tint of red on the skin it is always deepened in the late-grown potatoes. The Bovee is not quite white, and you will find those sent you are nearly rose color. I mention this because you may hear from some of your customers who doubt the genuineness of the seed.

Regarding the similarity of the Bovee and the New Queen, I think that the New Queen is longer than the Bovee; and if you have a chance to compare the two I hope that you will note this point. It is not always safe, however, to compare potatoes grown on different soils, and I will get some New Queen next season so as to grow the two alongside.

In our trials of jadoo and muck alongside there is no essential difference in the growth of plants in the two. If there is any difference, the plants in the muck are a little ahead. We are not through yet, however.

W. J. GREEN.

Experiment Station, Wooster, O., Dec. 20.

I myself have noticed that potatoes planted in July have often given a crop that looks quite different from the spring-planted; but, so far as I have experimented, the late-grown potatoes are, as a rule, superior. The New Queens are generally somewhat longer than the Bovee, especially if spring-planted; and I still insist, as I have all along, that the New Queen as an extra-early potato has not as yet been recognized as it deserves. It has a sad

fault of sprouting in the spring almost in spite of you, before almost any other potato. I have not noticed yet whether the Bovee shows this peculiarity or not. I will watch and report.

Now in regard to the last paragraph, relative to the jadoo fiber. I must confess it gave me a sort of shock, as I have several times written with much enthusiasm in regard to it; and the suggestion that the manufacturers made in regard to growing potted strawberry-plants has been worth to me all I ever invested in it—perhaps half a ton in all. A good many times it struck me that it not only had a close resemblance, but acted in many respects exactly like muck from certain swamps. If it is really true that the chemicals they combine with it add nothing to its value it will be only another illustration of how often we are carried away by some new thing when it is no better than what we have all around us, and always have had, that costs us nothing. We pay great prices for some new medicine, and it performs wonderful cures: but later on we discover that, had the bottle contained pure water, just such as we drink every day, we should have been just as well off. What a sad reflection on humanity! Perhaps we had better wait a little, however, for it is not yet *fully* demonstrated that jadoo fiber is no better than swamp muck. On Johnson & Jordan's celery-farm they mix swamp muck with stable manure, throw it in great heaps, and let it ferment; then they have a material for growing their little celery-plants in boxes that is certainly superior to the muck right from the swamps. If friend Green has not tried the jadoo fiber for potting strawberry-plants it is my opinion that the muck alone will not enable the plant to stand and grow through a long dry spell as does the fiber. I confess we had no good muck at hand, so we did not compare it side by side with the fiber.

Since the above was in type I have found something in an old *Rural New-Yorker* that gives the Bovee a pretty big recommend. It is an editorial notice too.

ATTENTION, POTATO-GROWERS!

Through the potato trials at the Rural Grounds, the Bovee first became known to the public. This led to some correspondence with a leading seed firm which, after trials of its own, purchased the entire stock, and purpose to offer it in small quantities in its 1897 catalog not yet sent out. Our object in writing this note is to call attention to a potato which, from our own trials, we believe to be at least ten days earlier than the Early Ohio, a larger yielder, while the tubers are as shapely as those of the Freeman, and more uniformly so, and of the first quality. We want our readers to try the Bovee in a small way. We shall soon adduce to it again with fuller particulars as to yield, where it may be purchased, etc.

Will the *Rural* please tell us whether they would at the present time give the Bovee such a strong recommend?

SCABBY POTATOES; SOME MORE SUGGESTIONS IN REGARD TO GETTING RID OF THEM.

Before planting next year spread your potatoes out in a dry, well-lighted room, for at least three weeks. This will kill the scab germs—at least it does for me. If you plant on scabby ground next year, give part of it a dressing of apple pomace, and that will kill the germs that are in the soil, I believe. I had a little strip across one end of a field that was full of scab

germs; and where I put rotten apples on it last winter the potatoes were clean this year.

E. TULLY.

Peniza, O., Dec. 12.

The first plan, of spreading potatoes out, is new to me; but, come to think of it, all of our late-planted potatoes that are entirely free from scab have been spread out in this very way. Last season we moved them up into the barn just as soon as all danger from freezing was past. There they were left exposed, spread out to the light, through April, May, and many of them went through the month of June. If our readers will turn back to page 787, they will see that Alva Agee suggests that an acid soil will prevent scab; and we all know pretty well that alkalies, such as lime, ashes, etc., encourage scab. Now, if apple pomace will not make the ground sour I do not know what will; and friend Tully has discovered that, where he puts the pomace, the potatoes are free from scab. In many localities, most seasons, apple pomace can be had very cheaply. If others have tried this, and have noticed any similar effect, will they kindly report?

DECEPTIVE ADVERTISEMENTS.

Look out for Borden & Co., who advertise a good razor for 10 cts. When you get only a cake of soap for the 10 cts., and write them, remonstrating, they will tell you that, if you will look at the advertisement closely, you will see they offer only a cake of *soap* for a dime. You can safely call the whole of them humbugs and swindlers when they in their advertisement *purposely* mislead.

SELLING RECIPES, ETC.

Here we are again. Circulars are being sent out to bee-keepers, containing the following:

I have found a way to prevent honey from candying, even if kept where the temperature is below zero. Nothing is put into the honey, and the process is very simple, inexpensive, and very little labor is required.

Bee-keepers who dispose of their honey to grocery-men and by peddling will readily appreciate the importance of this invention. It is a boon to all who sell or purchase honey.

To those who send me \$1.50 I will send full directions for the process, but only on condition that a promise is made that they do not divulge the method until the year 1903.

In reply to the question as to what we think about the thing, I would say, do not send a copper to anybody who offers to divulge some secret process for a sum of money, and asks for a promise not to divulge. Of course, I do not know what the secret is; but I do know that no valuable information has ever yet come in any such way. Our experiment stations will back me up in this statement. I would send \$1.50 myself, but I can not give any such promise. Whenever I find out any thing valuable I will give it to my neighbors and everybody else who may be benefited by the knowledge I possess. It would be strange if all the bee-journals we have now and all that have been published could not give their readers the simple thing that the advertiser expects *each individual person* to pay \$1.50 for.

SELLING RECIPES, OR INFORMATION HOW TO GROW CROPS, ETC.

I find the following in a recent number of one of my favorite agricultural periodicals :

HUBBARD SQUASHES and **Early Out-door Cucumbers** the money makers easily raised by my method. Send one dollar for instructions.

HENRY M. BROWN.
Gen'l Del., Indianapolis, Ind.

I sent a dollar right along promptly. After something like two weeks I received the following, written with a pen, as the writer had had some trouble in getting them printed in time :

HUBBARD SQUASHES AND EARLY OUTDOOR CUCUMBERS. HOW TO GROW THEM SUCCESSFULLY.

I have spent a great deal of time and money experimenting with these plants, in order to have cucumbers early, and also to outwit the bugs, which I find in the patch early and late. All coverings for plants which I have tried have some faults. Some are too heavy and expensive; others are too easily destroyed. I find the following to be as near perfection as any I have tried; and if the first cost is a little more than some others it is economy in the long run, and the frames can be closed when not in use, and will occupy but a small space.

I prepare a "tent" as follows, using plastering lath. Take a lath, and saw through the middle full length; this will make 6 pieces 8 inches long and 4 pieces 12 inches long. Sharpen each of the long pieces at one end; lay two of these parallel with each other, about 8 inches apart; take one 8-inch piece and nail it across and flush with the top of the two; also one 8-inch piece nailed on 8 inches from the top. This leaves 4 inches to push into the ground. Thus you have a frame 8x8 inches in width, and points 4 inches long.

Make another frame the same size. Lay them on a smooth surface, blunt ends together, and tack muslin over these two frames. The muslin will answer for hinges, that you may be able to bring them together. Thus, to each tent you will have to make one piece of muslin 9x18 and one 9x9 inches square, as a yard of muslin will make these dimensions, and have the selavage turn under to hold the tacks better.

Cut the latter from corner to corner, and tack on the ends of the frame, after bringing them together to the desired width, to accommodate the three-cornered piece of muslin. This frame is to put over your hill after you have planted your seed. I plant seed about the 20th of April. Don't try to raise cucumbers or squashes unless the ground is quite rich, especially for squashes, for the thinner the soil the less chance you will have for success. Prepare the soil well, and have it fined down. I plant $4\frac{1}{2}$ feet each way. I desire to plant this close, as the vines completely cover the ground, and thus protect the cucumbers from the sun.

Push the frame down into the ground over the hill, and completely up to the frame, so the bugs will not get under. This arrangement will protect them from bugs, frost, and cold winds, until all danger from frost is over, which in this latitude is about the 20th of May.

Have your squash ground prepared, and from the 20th of May to the 1st of June plant your seed. Take your frames off the cucumbers, and put on squashes, and leave on until they outgrow the frames. After you remove the frames from the squashes put tobacco dust around the stems; sprinkle with kerosene emulsion quite often, on the stems, under and over the vines; and if you are diligent I think you will be successful after following directions carefully.

Indianapolis, Ind. HENRY M. BROWN.

Now, friends, not only *readers* of agricultural papers, but the editors, what do you think of this kind of business? If the above had been illustrated with appropriate cuts, and put in an agricultural journal, it might have been of benefit to ten thousand people—that is, if they had never heard of the thing before; and it would not have cost these ten thousand people a cent apiece. This Mr. Brown wants a dollar apiece from each person. The dollar ought to pay for quite a treatise on growing squashes and cucumbers. Why! Gregory's

squash-book, that treats on every thing pertaining to squash-growing, costs only 25 cts., and it is worth more than twenty essays like the above. Let me suggest that a good editor should write back and say, "Mr. Brown, what is it you are going to furnish our readers for a dollar? Let us see it before we make ourselves a party to this scheme of yours." Or what is to hinder any editor from sending on a dollar, and then giving the information to all his subscribers, just as we have done? Like all other recipes offered for sale in this way, the whole thing is old, and comparatively well known. A still better thing is the squash-box that protects from frost as well as from bugs; and the wire-cloth bug-protectors we have sold for years are more substantial, and we think they are cheaper in the end, than this rigging made of cloth and sticks.

Right here I notice an item in that bright, wide-awake little paper, the *Philadelphia Farm Journal*. Here it is :

We place Klondike get-rich-quick mining companies along with die-slow-but-true quack doctors, and reject the advertisements of both. Our folks have no use for either.

You see, friends, there is somebody at the head o. that journal who is a little particular about the kind of advertisements they put before their readers.

CAST THY BREAD UPON THE WATERS.

The writer of the letter below wrote me, telling of their struggles to raise a debt on their little church, and asked if I could find it in my heart to help them a little. I replied that calls had been so numerous for mission work and for various similar purposes that we had been reluctantly obliged to call a halt, but that we would, however, donate to the cause two copies of *GLEANINGS* for 1898; then if she could find two bee-keepers or others who were sufficiently interested in their church in their neighborhood, who would take them off her hands at \$1.00 each, she would have \$2.00 to help them along. Below is her reply :

Dear Mr. Root.—Inclosed find the address of two subscribers whom I had no trouble to get. I don't know of any one in our neighborhood who takes *GLEANINGS* except ourselves, yet it goes from house to house, and even sometimes to the church and Sunday-school and Epworth League.

In behalf of the aid society I do send you our sincere thanks, and pray that those two copies will bring you fourfold in blessing, both temporal and spiritual.

Beallsville, O., Dec. 15. MRS. A. P. DANFORD.

It always does me good to know that our journal is passed around from neighbor to neighbor, even if it should result sometimes in excusing people from subscribing themselves. I think we should "do good and lend, hoping for nothing again," even with our favorite family paper.

In referring to A. T. Cook's catalog, in our previous issue, I overlooked what he says about tobacco. Well, here is what he says, and I hope the officers of the U. S. Department of Agriculture will read it:

Don't ask for tobacco seed. I do not believe it right to grow the vile stuff, to sell, or use it.

The Bee-keepers' Review

Closes its Tenth Year with Substantial Improvements.

Increase in Size.—Beginning with the December number, eight more pages are added, making thirty-six in all.

Better Paper.—Heavy, white, sized, and super-calendered paper is used in printing the December number, and its use will be continued.

New Type.—The December number is printed with large, clear, *new* type of that beautiful style called the Ronaldson.

A Beautiful Cover.—The cover is of extra-heavy, smooth, cream-colored Paradox, printed in that warmest and richest of all colors—claret.

A Fine Frontispiece.—As a frontispiece, printed on 80-pound Ivory enameled paper, is a half-tone, made from a photograph, of a comb badly infected with foul brood. A more perfect picture of such a comb has never been made. In short, the Review will now compare favorably with the high-class magazines, as regards typographical neatness and beauty. As to the value of the information it contains, here is a partial list of

CONTENTS FOR DECEMBER.

Foul Brood.—Many descriptions of foul brood have been published, but none the equal for detail, exactness, and clearness, of that given by Mr. R. L. Taylor in the December Review. With this description, aided by the accompanying engraving above mentioned, no one need fail in positively identifying foul brood. Not only this, but Mr. Taylor also gives plain, simple, and *exact* methods for getting rid of the disease.

Mr. M. M. Baldridge also describes a novel method for getting the bees of a foul-broody colony into a new hive, and free from the disease, by means of the bee-escape. He also

tells how to disinfect foul-broody hives by burning them out with kerosene oil.

The Plain Section.—Mr. L. A. Aspinwall has used this style of section for several seasons, and in the December Review he enumerates its many advantages, and illustrates and describes the style of super and separator with which he uses it. He also illustrates a simple machine for cleaning propolis from sections of this style, nearly as rapidly as they can be handled.

First - Premium Wax—The finest wax, that of a clear, pearly “dandelion yellow”—wax that for two years in succession took first premium at the Wisconsin State Fair, was made by E. Ochsner, and in the December Review he tells exactly how it was rendered.

Shipping Comb Honey.—The bee-keepers who never have cause to mourn the loss of honey broken in shipment would be more plentiful if all could read in the December Review of the simple yet novel method employed by J. E. Crane to prevent the trucking and “dumping” of heavy crates of honey.

But there is not room to tell more; better send \$1.00 for the Review for 1898, and receive the December number free; or, if you prefer to see that issue before subscribing,

Send Ten Cents, in silver or stamps (either U. S. or Canadian), and the December number will be sent you, and with it will be sent two or three other back numbers. This will give you a fair idea of the Review, and, if you then wish to subscribe, the 10 cents that you have paid may apply on the subscription. A coupon will be sent entitling you to the Review for 90 cents, if sent during 1898.

W. Z. HUTCHINSON, Flint, Mich.